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Original Articles.

ON THE OCULO-MOTOR TYPE OF POLIO-ENCEPHALITIS.*

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INTRODUCTION.

EVERYBODY now recognises that there exists an acute, primary, specific disease affecting the grey matter of the brain. This malady, known as "encephalitis" or "polio-encephalitis," was first described by Strümpell in the year 1884. It is comparable with acute anterior poliomyelitis ("infantile paralysis"), and, like that disease, occurs in children, is of acute onset, and tends towards recovery. It may or may not be associated with such general symptoms as fever, convulsions, drowsiness, stupor, loss of consciousness, coma, headache, nausea, and pronounced irritability. The special symptoms produced by the disease depend, of course, upon the particular region of the grey matter of the brain involved. For example, polio-encephalitis superior, which affects the nuclei of the cerebrum and cerebellum, may give rise to mental changes, hemiplegia, diplegia, ataxia, or disturbances of equilibrium, while polio-encephalitis inferior, which affects the nuclei of the pons and

* A communication read on February the 24th, 1911, before the Royal Society of Medicine, Section for the Study of Disease in Children.

medulla, may cause paralysis of one or several of the cranial nerves or acute bulbar palsy. The essential pathological changes appear to be thrombosis of the smaller blood-vessels, together with hæmorrhages in the grey matter and cellular exudation.

The evidence, both clinical and pathological, goes to show that affections of the grey matter, whether of the brain or of the spinal cord, are in reality one and the same disease, and are probably due to a single factor, be it infective or toxic in nature. The two affections may occur in epidemics, in which some members of the same family may suffer from the spinal and others from the cerebral variety. Indeed, cases are known where eye symptoms, as ptosis, ophthalmoplegia, and pupillary changes have been associated with an affection of the spinal cord, and the combined condition has then been termed *polio-encephalomyelitis* (B. Sachs).

The Oculo-motor Type of Disease.

For some years I have been familiar with a group of cases in children, the chief characteristic of which is the sudden onset of squint at an age when ordinary squint is not altogether common. The cases are met with in children often of tender age. The condition may arise without obvious cause. On the other hand, it may be observed after some childish ailment, as scarlet fever or measles, and I have known it follow an injury, a fright, or some trifling operation, as vaccination or circumcision. The child, often apparently in his usual health, is put to bed, and on awaking next morning is found to present a squint, a thing never noticed by his parents before. The family physician is summoned. He surmises that "there has been a fit in the night," and that is the usual explanation offered by the mother when she brings her child to hospital or elsewhere for advice about the eyes.

In my experience, the condition, as described above, is far from uncommon. The clinical material at my disposal is not especially large. Yet I have had no difficulty whatever in collecting twenty-eight examples of the disease.

My observations lead me to conclude that the oculo-motor symptoms in these cases depend upon an acute focal encephalitis, quite analogous with the better-known forms of that disease.

That the condition should so far have escaped general recognition is probably due to the fact that in three-fourths of the cases the external rectus of one eye is alone affected, so that on casual examination of the child in the out-patient room, the condition

passes as an example of the convergent concomitant strabismus so familiar in childhood. In the rarer event of ocular muscles other than the external rectus being involved, however, the paralytic nature of the squint could scarcely be overlooked. Finally, another reason why the significance of the eye symptom is apt to be missed lies in the fact that in upwards of two thirds of the children there is no obvious disturbance of the general health.

In endeavouring to construct briefly the symptom-complex of the disease outlined above, I shall draw upon the notes of twenty-eight such cases which I possess. The following points will be taken up, and examined in the light afforded by the figures in my possession. (1) Sex; (2) age when seen; (3) age of onset; (4) the influence of other illnesses, etc.; (5) the associated signs and symptoms; and (6) the nature of the oculo-motor manifestations.

(1) *Sex.*—My list of 28 cases includes 16 females and 12 males, from which we may probably conclude that sex has no particular determining influence upon the incidence of the disease.

(2) *Age when seen.*—The patients came under notice at ages that varied from 3 months to 30 years, the average in months being 78·8.

(3) *Age of onset.*—The age of onset ranged from shortly after birth to 4½ years. The average of the 28 cases, stated in months, was 19·1. To put the matter in another way, of the total cases, 14, or exactly one half, began in the first year of life.

For purposes of comparison it may be stated that in a series of 1017 cases of unilateral convergent squint tabulated by Mr. Claud Worth ('Squint: Its Causes, Pathology, and Treatment,' 1903, p. 41), only 134, or 13·17 per cent., began in the first year of life.

The age-incidence of the two affections, ordinary strabismus, and the strabismus of polio-encephalitis, is well brought out by the following table:

	Age of onset.	
	Ordinary strabismus.	The squint of encephalitis.
Under 1 year . . .	13·17	50·00
Between 1 and 2 years .	18·30	7·14
Between 2 and 3 years .	24·29	10·72
Between 3 and 4 years .	18·58	25·00
Between 4 and 5 years .	11·11	7·14
Between 5 and 6 years .	7·18	—
After 6 years . . .	7·37	—

From an examination of the foregoing figures we conclude, then, that the age-incidence of the disease under discussion offers

considerable contrast with that ascertained by Worth for cases of ordinary convergent squint.

(4) *Other illnesses.*—In fifteen of my cases, or 53·57 per cent., the squint was immediately preceded by some condition that might possibly have been the cause of the brain mischief. Thus the list included several zymotic ailments, as measles (2), scarlet fever (1), influenza (1), whooping-cough (1), and modified smallpox (1). A fall on the head was assigned as the cause of the squint in five children and a fright in one child. Circumcision had been performed shortly before squint was noticed in one child. Other suggested causes were teething (1) and "wasting" (1).

(5) *Associated signs and symptoms.*—The next point for examination is with regard to the frequency and nature of any general symptoms, such as might indicate an affection of the brain, in association with the oculo-motor signs. One point was very striking, namely, that in more than two thirds of the patients (67·85 per cent., to be precise) the squint was not preceded, accompanied, or followed by any disturbance of the general health of a sufficiently pronounced nature either to arouse the solicitude or to impress the memory of the children's parents. In the remaining eight cases, associated symptoms were "fits" or "convulsions" in five, combined with unconsciousness in two of these patients. In a sixth child there was a history of coma lasting for three days. A seventh patient was noted as being "sleepy, and wanting to lie about" coincidently with the appearance of the eye symptoms, and in the eighth patient the latter were associated with torticollis. One interesting case calls for a word or two of separate mention. The patient was circumcised when aged two months, a little operation that was speedily followed by paralysis of one external rectus muscle. Six years later the right leg became paralysed, apparently from acute anterior poliomyelitis.

Family predisposition to the disease was suggested by one of my cases, where an infant, aged 3 months, on recovery from "fits" and a period of unconsciousness, was found to have paralysis of one external rectus muscle. An elder sister of this patient suffered from paralysis of the left hand and arm at three months, and three months later the right eye "got fixed in the corner."

(6) *Nature of the oculo-motor symptoms.*—This is scarcely the occasion to enter into anything like a minute analysis of the oculo-motor signs of the malady. It will suffice to say that any of the extrinsic muscles of the eyeball, either singly or in combination, may be attacked, although in three quarters of my cases the external

rectus was alone affected. Paresis was more common than paralysis of the muscle. I have never yet been able to satisfy myself that both external recti muscles were involved, although such may readily have been the case. The squint is born, as it were, fully fledged, an instructive contrast with the ordinary form, which tends to be occasional and to alternate between the two eyes at first and to get worse with the lapse of time. The squint of polio-encephalitis, in my experience, does not usually get more marked. It may, on the contrary, improve or even disappear as time goes on. In older children diplopia may be complained of, and a more or less characteristic carriage of the head may sometimes be seen. Nystagmus was noted in three patients. In one patient there was reason to think that the intrinsic muscles of the eye, the sphincter pupillæ and the ciliary muscle shared in the paralysis. In that patient, a woman, aged 20 years, whose symptoms had followed a fall on the back of the head at two years of age, all branches of the third nerve to the extrinsic muscles of the eye were paralysed, so that the only movements retained were outwards (sixth nerve) and downwards and outwards with rotation (fourth nerve). The pupil, considerably larger than that of the other eye, was motionless to light. The patient could read only large print (No. 16 Jaeger) with the affected eye. The eye was somewhat prominent, and its palpebral fissure was wider than the one of the other eye. There was no affection of fifth or facial nerves.

Diagnosis.

The diagnosis of the oculo-motor type of encephalitis may be simple or the reverse. No difficulty is likely to arise unless the external rectus is alone affected, which, as already stated, occurs in three out of four of the cases. An upward, downward, outward, or intermediate squint suddenly making its appearance in a baby under twelve months could scarcely be due to anything else than an acute affection of the nuclei of the nerves which supply the extrinsic muscles of the eye. Things are different when the external rectus muscle is alone involved. In marked cases, when the child is old enough to follow a bright object with his eyes, a defect will be found in the outward rotation of the squinting eye. The eye, perhaps, cannot be moved beyond the mid-line of the orbit. But it is commoner for the outward excursion of the affected eye merely to fall short of that accomplished by the sound eye. In milder cases still, or when the defect is of long standing, nothing more may be observed save a lack of smoothness in the lateral excursions of the

eyeball. The affected globe moves outward with the consentaneous inward movement of the sound eyeball, but in a jerky fashion. "The eye drags" is an expression I have heard used both by mothers and by medical men. The eye may be said "to lose time," as it were, like a defective fine adjustment of a microscope. There is another sign that I have found useful. It is that when the child is told to look in the direction of action of the affected muscle, he instinctively turns, not his eye, but his head, which is not the case, at all events to the same extent, when the corresponding muscle in the other eye is called into play.

Conclusive evidence is to be sought in an examination of the tiny bright images reflected from the corneæ when a source of light, such as that afforded by a candle flame or an ophthalmoscopic mirror, is held before the eyes. Under these circumstances the bright spot of light will occupy approximately the centre of the cornea of the unaffected eye, while in the other eye it will be displaced in a direction opposite to that of the squint. Thus, in convergence, the bright reflex lies somewhere to the outer side of the centre of the pupil; in divergence, to the inner side of that point; in upward squint, below the centre; and in downward squint, above the centre. The extent of the displacement will be directly proportionate to the degree of deviation of the eyeball. For that matter, once we know the position occupied by the corneal reflex, it becomes easy to convert our knowledge into terms of the angular measurement of the squint for future reference. A scheme for this purpose has been drawn up by Hirschberg ('Centralbl. f. prak. Augenheilkunde,' 1886, p. 5). The method, although a little rough and ready, is adequate for practical purposes, especially in children.

An estimate having been formed by the surgeon of the degree of the "primary deviation," *i. e.* the deviation of the squinting eye, he next covers the sound eye and gets the child to fix the light with the affected eye. When this movement is correctly executed, the sound eye, so to speak, takes on the squint. The degree of this so-called "secondary deviation" is next estimated. In ordinary concomitant strabismus the primary and the secondary deviations are equal, but in paralytic strabismus, such as that due to encephalitis, that is no longer the case. In those circumstances, for reasons that are so well known that they need not be explained here, the secondary deviation is bigger than the primary.

Having ascertained by examination of the corneal reflexes or by other means than an extra-ocular muscle is paretic, there may still be a doubt as to the cause of the condition if the history of the case

be defective, as it sometimes is in hospital out-patients. Such a condition may in reality belong to the group of congenital paralyses, the commonest example of which is paralysis of the external rectus muscle in one eye or in both. I am not prepared to suggest any means whereby these two conditions can be distinguished in the absence of a trustworthy history of the case, unless it be by the electrical examination of the affected muscles—no simple matter when dealing with the eye of a young child.

Conclusions.

(1) There is a particular form of paralytic strabismus in children which is due to polio-encephalitis.

(2) It is not uncommon, and is most frequent in children under one year of age.

(3) It is associated comparatively seldom with other symptoms indicative of a cerebral disorder.

(4) Zymotic diseases appear to be important factors in its causation.

(5) Although the paralysis may affect any of the extrinsic muscles of the eyeball, yet in three-fourths of the cases the external rectus muscle is alone involved. The extrinsic musculature of the eye is seldom attacked.

(6) The common form of encephalic strabismus is very apt to be confused with the ordinary form of concomitant convergent strabismus.

SOME CHRONIC LUNG AFFECTIONS IN CHILDREN.*

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To-day I purpose to demonstrate to you some children who have suffered from coughs of long duration, in all of them lasting for many years and in some even from babyhood, in order that we may consider the causes which produce such coughs, and the means whereby we can arrive at a correct diagnosis.

There are various forms of chronic lung affections which occur in children, but these forms are not numerous, and there are only two

* Summary of a Post-Graduate Demonstration given at the General Hospital, Birmingham, on November the 15th, 1910.

of them which are at all frequently met with, namely, bronchial catarrh and a mild form of bronchiectasis. Many of the cases of chronic pulmonary affections in children are difficult of diagnosis, chiefly on account of the few abnormal physical signs which may be discovered on examining the chest.

The cases of children who present obvious physical signs of a coarse pulmonary lesion of long standing are, as a rule, easy to diagnose, but such coarse lesions are uncommonly met with. Phthisis of the adult type, for instance, rarely occurs under twelve years of age. It is very important to remember that it is only occasionally the more serious chronic lung conditions are found. It is difficult to estimate how frequently these chronic and more serious conditions occur, for the diseases being of long duration the children are often taken from one medical man to another, and from one institution to another, thereby appearing in the statistical records of each.

The following lung affections as they manifest themselves in children will be considered:

(1) Bronchial catarrh; (2) chronic bronchitis; (3) bronchiectasis —(*a*) mild, (*b*) severe (fibrosis of lung); (4) asthma; (5) chronic tuberculosis (adult form of phthisis).

(1) *Bronchial catarrh.*—By this is meant a mild form of bronchitis, which occurs in children year after year and which produces no structural changes in the lungs. The disease is not nearly so severe as the ordinary form of chronic bronchitis, and therefore I prefer to call the condition bronchial catarrh. It is certainly different in its results from the more severe chronic bronchitis of children, and even more different from the chronic bronchitis of adults.

The patients suffering from bronchial catarrh are those in whom errors in diagnosis most frequently occur. This condition is mistaken usually for one of the other groups, all of which are more serious than the first. Children suffering from a catarrhal condition of the bronchi may have coughs for many years, and upon examination of their chests very few abnormal physical signs are found. The children with these chronic coughs are usually delicate-looking and thin, but they are not emaciated nor stunted in their growth. They have not a good colour for they are generally anæmic, but they never have any cyanosis as appears in chronic bronchitis and in other lung conditions in which there is obstruction to blood passing through the pulmonary circulation. There is no clubbing of the fingers, and the children can run about without any dyspnœa. They frequently catch cold, and the anxious mother nearly always

asks the examining physician if the child is suffering from "consumption."

It is impossible to diagnose this lung condition without obtaining an accurate history of the illness. In some instances it will be found that the cough has been almost continuously present for many years, while in others that there have been intervals in which the cough has ceased altogether. The mother will often say, when describing the symptoms from which her child is suffering, that the cough has been present on and off since infancy. The child is said to be frequently catching cold. In other cases the history indicates that the cough followed immediately after one of the specific fevers, and that the child has been delicate ever since. There usually is no history of expectoration, and probably very little phlegm is formed. On the other hand, the child may have expectorated a little phlegm, usually only a small amount and not constantly. If a large quantity of phlegm is expectorated then the child is most certainly suffering from some of the other forms of chronic lung affections which will be considered later. In inquiring about expectoration, it must be remembered that children do not frequently expectorate, and that when any phlegm is coughed up into the throat the child prefers to swallow rather than to spit it out. Careful inquiry must therefore be made to ascertain whether the child swallows the phlegm.

In this affection there are no abnormal physical signs found except perhaps a few rhonchi at times when the child catches a fresh "cold." The condition goes on for years, sometimes from babyhood, and yet no coarse lesion is found in the lungs. The emphysema which might be expected to develop is not found, and no dilatation of the bronchi seems to take place. The children are apparently quite healthy upon physical examination, and if the medical examiner had not been told of the chronic cough he would not have suspected any pulmonary disorder.

The greatest help in the diagnosis is the length of the history of the illness. The children suffer from a chronic lung affection of many years' duration, which produces little or no permanent structural change in the lungs. If, therefore, a history is obtained of a cough lasting on and off for many years, and there are not abnormal physical signs in the chest, no cyanosis, no expectoration, or very little, no clubbing of the fingers, then the condition is probably one of bronchial catarrh, and the suggestion that it may be due to tuberculosis can be ignored, for there is no doubt that tuberculosis of the lungs in children is rarely chronic, and when it is so, is never of such long duration as occurs in adults. The

longer, therefore, the duration of the illness, the more unlikely is the cough to be due to tuberculosis, and the more certain it is that the patient is suffering from bronchial catarrh.

These children gradually recover as they grow older; this we assume, for it is rare that we can prove it. The condition is not found later in life, and therefore we assume that they recover; nor do we know of any chronic lung affection occurring in adult life, in which we frequently get a history of a constant cough during childhood.

I have called the condition bronchial catarrh, as no better name seems to be forthcoming. It is an extremely common condition and is probably due to a mild bronchial catarrh, which continues for years without producing any dilatation of the bronchi, and which eventually disappears, leaving no trace of its previous existence.

There are a few conditions which one must look out for in examining a child who seems to be suffering from bronchial catarrh, and they must be excluded, for they are capable of producing a cough which may last a long while. The first condition is that of enlarged tonsils and adenoids. I have had children sent to me diagnosed as suffering from phthisis when their ill-health was entirely due to this excess of lymphoid tissue, as proved by removal of the adenoids and tonsils curing their complaints. Among other children the cough is a neurosis and is not dependent upon any affection of the respiratory apparatus.

Case 1.—Boy, aged 10 years. Bronchial catarrh. *History:* Cough in winter chiefly since infancy. Has never been ill enough to be confined to bed with the cough. It did not commence with any illness. A little phlegm at times. *General appearance:* Well developed and well nourished, pale, no clubbing of fingers. No adenoids and enlarged tonsils. *Physical signs:* A few rhonchi; no signs of emphysema. *Von Pirquet's* cuti-reaction negative.

Case 2.—Girl, aged 9 years. Bronchial catarrh. *History:* Cough on and off for three years, worse in the winter. Brings up a little phlegm at times. Adenoids and tonsils removed, aged 4 years. *General appearance:* Healthy but thin. No clubbing of fingers. *Physical signs:* Breath-sounds very harsh over left apex in front. No adventitious sounds. *Sputum* contained no tubercle bacilli.

Case 3.—Boy, aged 9 years. Bronchial catarrh. *History:* Cough since age of 18 months following pertussis. Expectorates a little phlegm, never in large quantities. *General appearance:* Slightly cyanosed, fairly healthy looking and well nourished.

Physical signs : Percussion normal. Breath-sounds normal. Rhonchi all over each lung at times. *Sputum :* No tubercle bacilli.

(2) *Chronic bronchitis* is a rare disease in children, and does not require especial description as it is similar to that which occurs in adults. It may be the sequel of acute bronchitis or it may make its appearance insidiously. There are frequent exacerbations. Alone it is a rare condition, but it is frequently found associated with cardiac affections, especially mitral disease and congenital malformations. It is constantly found in patients suffering from scoliosis, when it is frequently mistaken for tuberculosis.

The patients look very like those in the previous group, but there is usually some cyanosis, the cough is more frequent, and there are paroxysms of coughing which often suggest pertussis, and there is usually some phlegm coughed up, but small in quantity. Asthmatic attacks may also occur. On examination of the chest there are rhonchi and coarse râles scattered throughout, and the lungs are found to be emphysematous. There is no clubbing of the fingers. The diagnosis may not be easy, and the important affection from which to distinguish it is tuberculosis of the lungs. In chronic bronchitis there is no wasting, no fever, the physical signs are bilateral, there is emphysema, and no tubercle bacilli are found in the sputum.

The results of chronic bronchitis in children may be—(1) recovery, (2) progressively worse with emphysema, (3) bronchiectasis.

These cases of chronic bronchitis should be treated in a similar way to the corresponding condition in adults. Potassium iodide is the drug from which the most benefit is obtained. In the asthmatic attacks which are associated with this form of bronchitis and which are due to bronchial spasm, harm may be done by giving drugs which dilate the bronchi. The spasm may be an attempt to prevent the inflammatory secretions from travelling further and so causing a broncho-pneumonia.

(3) *Bronchiectasis.*—A mild form of bronchiectasis is not an infrequent affection in children, whereas the severe form with contraction of the lung containing large cavities is much more rare. A slight amount of dilatation of the bronchi may develop rapidly during an attack of whooping-cough and persist for a considerable time, even two or three years. As the child grows older the bronchi may resume their normal size. After an attack of pneumonia bronchiectasis may be present for some considerable time and the child gradually recover, so that no evidence of the disease may be found later in life. Dilatation of the smaller bronchi may take place and then the condition is spoken of as bronchiolectasis.

The history in mild cases is usually only one of a constant cough with the bringing up of phlegm which varies considerably in amount. There is usually a large quantity and it often gives a slightly fœtid smell. There is not much wasting nor nocturnal fever. The fingers usually show slight clubbing. It is rather easy to imagine early clubbing of the fingers in children when it does not exist, on account of the skin on the proximal side of the nails usually having a glossy appearance. The skin is generally much smoother in this position than in adults, and therefore looks as though it were stretched.

On examination of the chest very few abnormal physical signs are found. A few rhonchi may be heard, usually confined to one portion of a lung, more frequently the base than the apex. The adventitious sounds vary considerably from day to day. No evidence of consolidation of the lung can usually be ascertained. There is no alteration in the breath-sounds and the percussion note is normal.

This condition of a mild form of bronchiectasis is a fairly common one, and must not be confused with the severe form which gives definite physical signs of its existence, such as contraction of one side of the chest with displacement of the heart to the affected side and emphysema of the opposite lung. In the severe form the child becomes wasted, but not markedly so ; there is usually fever ; some amount of cyanosis and dyspnœa are usually present ; a large quantity of sputum, often fœtid, is expectorated, and definite clubbing of the fingers occurs. There is a septic cachexia the result of a septic absorption.

The following are cases of the milder form of bronchiectasis :

Case 4.—Girl, aged 9 years. Bronchiectasis. *History :* Cough since pertussis three years ago. Expectorates at times a large quantity of phlegm, sometimes as much as half a cupful at a time, slightly fœtid. Streaks of blood in phlegm once or twice. *General appearance :* Undersized, thin, slight cyanosis, clubbing of fingers. *Physical signs :* Chest symmetrical, resonant all over. No tubular breathing. Rhonchi all over. *Sputum :* No tubercle bacilli.

Case 5.—Boy, aged 7 years. Bronchiectasis. *History :* Pneumonia when eighteen months old, coughed up phlegm for three or four years ; during last two years large in quantity, about a cupful at a time, and very offensive. *General appearance :* Healthy, slight clubbing of fingers, rather thin, weight 3 st. 8 lb. *Physical signs :* April, 1910, note impaired left base, with tubular breathing. Bubbling râles at both bases. November, 1910, a few rhonchi in chest, no tubular breathing. *Progress :* Improved marvellously on continuous inhalations ; very little sputum now.

Case 6.—Girl, aged 5½ years. Bronchiectasis. *History :* Cough on and off since measles when aged 1½ years. Phlegm large in quantity at times ; said to have contained blood. *General appearance :* Undersized, wasted, slightly cyanosed, no clubbing. *Physical signs :* Only rhonchi heard in each lung. No impaired resonance. *Von Pirquet's* cuti-reaction negative.

Case 7.—Boy, aged 5 years. Bronchiectasis. *History :* Whooping-cough in February, 1908 ; cough ever since, with paroxysms of coughing. Phlegm, large quantity at a time. *General appearance :* Undersized and rather thin. Slight clubbing of fingers. *Physical signs :* Rhonchi and coarse râles over each lung, especially on left side. *Sputum :* No tubercle bacilli.

The following is a typical example of fibrosis of the lungs subsequent to an attack of pneumonia, and in which no tubercle bacilli have been found on examination of the sputum.

Case 8.—Girl, aged 9 years. Fibrosis of left lung. *History :* Pneumonia four years ago on left side. Cough ever since ; marked dyspnœa. Phlegm, large quantity. No hæmoptysis. *General appearance :* Small, emaciated, cyanosis, dyspnœa, hectic flush, no clubbing of fingers. *Physical signs :* Left side of chest shrunken, right side prominent, cardiac apex normal position. Note dull all over left lung, with vocal resonance and vocal fremitus increased. Tubular and almost amphoric breathing posteriorly. Very few moist sounds. *Sputum :* No tubercle bacilli.

In addition to the ordinary treatment of maintaining the general health and keeping the child as much as possible in the open air and exhibiting expectorant mixture, I have found that I get excellent results by the continuous inhalation of certain antiseptic drugs on Dr. Burney Yeo's inhaler. The inhaler is used continuously, night and day, and five drops of the following mixture is dropped on the sponge contained in it every two hours during the day and two or three times during the night or as often as is convenient.

Creosoti ʒij, acid carbol. ʒij, tin. iodi ʒj, sp. etheris, ʒij, sp. chlorof. ʒij. Dr. David B. Lees writes : "The odour of the solution is not unpleasant, and patients appear to derive great benefit from its use. Cough is rapidly relieved without any sedative or expectorant medicine, and sputum is more easily expectorated and is lessened in quantity. The use of this solution has no irritating tendency nor does it cause hæmoptysis. If hæmorrhage should occur, it might be well to remember Dr. Yeo's suggestion and to add turpentine to the solution. The absolutely continuous use of the inhaler (except at meal times) must be rigidly required."*

* 'Brit. Med. Journ.,' vol. ii, 1909, p. 1659.

The inhaler is quite inexpensive, it is very light, and often has to be replaced as the child is liable to break it during sleep. I am satisfied that with this treatment the cough and expectoration greatly diminish in nearly all cases. Case 5 has been treated in this way for five months and has shown vast improvement.

The postural treatment as described by Dr. Ewart I tried for some time, but obtained no good results except perhaps in one or two cases. Probably the fault was mine in not going sufficiently into the details, and in insisting on the continuation of the treatment.

(4) *Asthma.*—Asthma of the spasmodic type is also rare in children, while the asthma associated with bronchitis is the type more commonly found. These conditions do not require special description. The following case is rather an unusual one of asthma on account of the shortness of the attacks.

Case 9.—Boy, aged 13 years. Asthma. *History:* Duration two years; attacks of shortness of breath two or three times a week, but more frequently now. They only last a few minutes, rarely more than five. He becomes very cyanosed during an attack. Occurrence any time, not particularly in the night. Slight cough, no sputum. *General appearance:* Healthy, slightly cyanosed. *Physical signs:* Chest normal.

(5) *Chronic tuberculosis of the lung* or phthisis of the adult type is a very rare condition in young children, but tends to become more common from twelve to fifteen years of age. Tuberculosis of the lungs in children runs a much more rapid course as a rule than it does in adults. That this pulmonary affection is very rare is shown by the following table, which contains the results of my examination of 8000 children under the age of fifteen years, who attended the out-patient department of the General and the Children's Hospitals, Birmingham. The ages of the children examined at the General Hospital ranged from a few days to fifteen years, and those at the Children's Hospital up to twelve years.

	General Hospital.	Children's Hospital.	Total.	Percentage.
Children examined	1615	6385	8000	—
Diagnosed as phthisis of the adult type	9	6	15	0·19
Doubtful cases of phthisis of the adult type	7	4	11	0·14

This table was published in The British Journal of Children's Diseases in May, 1909, and I have not altered it, but I feel convinced now that at least five of the fifteen children in whom a diagnosis of

phthisis was made were not suffering from that condition at all, but from a mild form of bronchiectasis.

Dr. G. A. Auden, Medical Superintendent to the Education Committee of Birmingham, reports that in 1909 pulmonary tuberculosis was diagnosed by the Medical School Inspectors of Birmingham in fifty cases as the result of an examination of 26,484 children. These figures are slightly misleading, for although these numbers of children were examined, yet the cases of pulmonary tuberculosis were selected from something like 40,000 children, as the teaching staff were especially asked to present any children who in their opinion ought to be medically examined.

Dr. Bostock Hill reports fourteen cases in 3175 examinations in Warwickshire. These figures show how rare a condition phthisis of the adult type is in children. In my opinion it is even rarer than these figures indicate, because I find that the error in diagnosis is nearly always in the direction of calling a condition tuberculous when it is not. It is unusual for tuberculosis of the lungs to be overlooked in a child, because the physical signs develop so rapidly, and by the time they come up for treatment definite physical signs of the malady are certain to be present. It is not so in adults, the physical signs in the lungs appear long after the disease has commenced.

I have personally conducted 244 post-mortem examinations on children, and in 22 of these found tuberculosis of the lungs, but in only two cases was the disease in the lungs chronic, so that it could be described as phthisis of the adult type. This is under 1 per cent., and is far less than the proportion of cases in which tuberculosis of the lungs is found in post-mortem examinations on adults.

The following is the only case of phthisis of the adult type which I have been able to find for to-day's demonstration :

Case 10.—Boy, aged 12 years. *Phthisis :* Caries of spine. Three paternal uncles and one aunt died of phthisis. *General appearance :* Healthy, well nourished, slightly cyanosed—no clubbing. Diagnosed as phthisis in October, 1908. He has greatly improved since and is now nearly well. *Physical signs :* Tubular breathing at right apex ; note high pitched there, no adventitious sounds.

So frequently is a child said to be suffering from pulmonary consumption when a much less serious disease of the lungs is present, that I propose to devote the remainder of this lecture to the diagnosis of chronic pulmonary tuberculosis in children. Before a diagnosis of pulmonary tuberculosis of this form is made the following points should be carefully considered.

(*a*) Duration of the illness.

(*b*) General appearance of the patient.
(*c*) Cough.
(*d*) Hæmoptysis.
(*e*) Temperature.
(*f*) Pulse.
(*g*) Physical signs.

(*a*) *Duration of the illness.*—The length of the illness is very helpful in diagnosis, for if a child has had a cough for many years the condition of the lungs is very unlikely to be of tuberculous origin. Tuberculosis of the lungs in any form in children is never of such long duration, and the usual physical signs quickly present themselves. The older the child the more chronic the affection may become. In the children who get well the recovery is very rapid. The disease does not remain for any length of time in the same condition as it does in adults, but it either rapidly improves or rapidly advances. A pulmonary affection of long duration is unlikely to be due to tuberculosis.

(*b*) *General appearance of the patient.*—A child who has had a cough for many years is often thin, but because of this loss of flesh a diagnosis of phthisis should not be made. On the other hand recent loss of weight may be due to tuberculosis of the lungs. The child with the tuberculous aspect is so familiar that it needs no description here. The tuberculous aspect is far more frequently found in children because they are suffering from tuberculosis of the joints, peritoneum, or other parts of the body, than because the lungs are affected. In cases in which there have been coughs for many years a slight cyanotic appearance is sometimes found. This appearance is rare in phthisis unless the disease be far advanced. In phthisis the child usually shows marked anæmia, but sometimes is observed the hectic flush which is frequently seen in adult patients suffering from pulmonary consumption. Some of the children with cyanosis due to chronic lung affections present clubbing of fingers; this is an unusual occurrence in children suffering from phthisis.

(*c*) *Cough.*—In children suffering from phthisis cough is nearly always present, but it is remarkable how very slight it may sometimes be even when the disease is far advanced. Expectoration may or may not be present, but in the older children expectoration is nearly always present, but rarely large in amount. If the expectoration be copious in a child with a cough of long duration the condition is unlikely to be due to tuberculosis: it is more often a case of bronchiectasis. The sputum in all doubtful cases should be examined for tubercle bacilli.

(*d*) *Hæmoptysis* due to phthisis is rare in young children, but is sometimes present in the older ones. It is extremely rare as an initial system. Whenever there is a history that the patient has coughed up phlegm streaked with blood there can often be found some condition in the mouth, pharynx, or nose, which will account for the hæmorrhage. Hæmoptysis, therefore, is of little value in the diagnosis of phthisis in children, and a history of its occurrence should not lead the examiner astray.

(*e*) *Temperature.*—The temperature chart may give valuable information in children suffering from chronic pulmonary tuberculosis. The temperature is constantly above normal, and falls two or three degrees towards the early morning, at the time the night-sweats occur. This remittent fever, however, does not develop until the disease is advanced enough to give definite physical signs. Night-sweating in children is of very little diagnostic importance, as it occurs so frequently in the debilitating diseases of the young.

(*f*) *Pulse.*—The pulse-rate is of value in helping to exclude phthisis, for if it be infrequent it is a clear indication that there is no tuberculous lesion in the lungs. So many conditions increase the pulse-rate in children that a frequent pulse is of little use in the diagnosis of phthisis.

(*g*) *Physical signs.*—The physical signs of phthisis in children are the same as those in adults, but they make their appearance earlier and develop more rapidly. If physical signs be absent the disease is rarely present. Many children have been thought to be suffering from phthisis when there have been no physical signs of the malady, and in nearly every case the subsequent history has proved that the diagnosis was wrong. Phthisis when it occurs in children is most frequently apical in situation, but exceptions to this are more often found in them than in adults.

Bronchiectasis and fibrosis of the lungs present physical signs similar to those of phthisis. These diseases are more frequently situated in the lower lobes, so that when there are signs of consolidation, retraction, tubular breathing, etc., at the bases of the lungs, the condition is much more likely to be due to these diseases than to tuberculosis.

The percussion note is impaired over the affected areas in tuberculosis of the lungs. As the breath-sounds heard over the chest of healthy children are often thought to be tubular by inexperienced examiners when the sounds are simply harsh or puerile, the percussion note is very valuable in showing that this harsh breathing is not produced in consolidated lung-tissue. The normal vesicular

sounds are louder and harsher in children than in adults on account of the thinness of the chest-wall and the greater elasticity of the lungs. The difference between the breath-sounds heard over the apex of the right lung and those heard over the corresponding position of the left lung is more marked in children than in adults. It is sometimes extraordinary how very harsh the breath-sounds may be over the right apex when compared with those over the left in children who are apparently in good health. It is certain that such children have no pulmonary disease to account for the differences in the two sides. The great variance, therefore, that may exist in health in the breath-sounds of children increases the importance of percussion as a valuable means in the diagnosis of pulmonary consumption. Fine crepitations are heard during inspiration over the affected portions of the lung in phthisis, whether the patient be a child or an adult. In chronic bronchitis the only adventitious sounds present are rhonchi, never fine crepitations. Phthisis is sometimes diagnosed because rhonchi are heard over the apex of the lung; these are due to the bronchial catarrh, which is non-tuberculous, and which the patient has suffered from year after year. In chronic bronchitis there is frequently a certain amount of spasm with expectoration, and this is sometimes mistaken for tubular breathing.

I have discussed the different forms of chronic pulmonary affections in children at considerable length, and have tried to classify them in as simple a way as possible, because there is a great tendency for a diagnosis of tuberculosis to be made in almost all conditions in which a cough persists for a long time in a child. The cases which have been demonstrated to you appear to be fairly typical ones, and illustrate the points which have been raised.

HYDATID CYST OF THE LIVER IN A BOY, AGED 9½ YEARS; OPERATION.

By A. J. Cleveland, M.D., M.R.C.P.,
Honorary Physician, Jenny Lind Infirmary; and

J. Burfield, M.B., F.R.C.S.,
Assistant Surgeon, Jenny Lind Infirmary, Norwich.

A boy, aged 9½ years, was admitted into the Jenny Lind Infirmary for Children on January the 7th, 1911. The patient was well until nine months ago, when he was pulled to the ground from off his

brother's back, on which he was having a ride. He complained greatly of pain in the lumbar region, and his mother thought that he must have "broken his back." He does not seem to have been sufficiently hurt to be kept from school, but ever since the accident he complained off and on of pain in his back. At the same time a lump was noticed in his right side.

Condition on admission.—He is small for his age, pale, and below the normal intelligence. No enlarged glands. Heart and lungs normal. Urine normal. No jaundice. There is a tumour to be felt below the right costal margin reaching to the level of the umbilicus. It is dull on percussion, and has an elastic feel like that of a very tense cyst, and is apparently part of the liver. It extends laterally from the middle line to a point just external to the nipple line. No other irregularity of the liver can be felt, and no other abdominal tumour. With the X-ray screen the tumour gave a shadow of the same density as the rest of the liver, and could be seen to be part of the liver. A blood-count by Dr. Claridge gave the following proportion of white cells: Polymorphonuclears, 54·4 per cent.; lymphocytes, 36·4 per cent.; transitionals, 5·3 per cent.; eosinophils, 2·9 per cent.; and large mononuclears, 1·0 per cent. There was thus no eosinophilia. The boy was put on iodide of potassium until February the 3rd, when Mr. Burfield was asked to explore the tumour.

On opening the abdomen this was seen to be a cyst in the anterior part of the right lobe of the liver, and on aspirating it clear fluid like water came out. After some 6 or 7 oz. had been evacuated the remaining fluid (in all there was 12 oz.) was turbid. The inner layer of the cyst was removed intact and the cavity drained by a rubber tube. No other cysts were seen in the liver or abdomen. Although there were no daughter-cysts to be seen, the fluid under the microscope showed numerous brood-capsules. The boy is recovering well.

London and Provincial Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 24th, 1911.

Dr. E. Cautley, *President, in the Chair.*

A Case of Spasmus Nutans.—Dr. E. Bellingham Smith.—A male child, aged 11 months, was brought to the out-patient department for "movements of the head and eyes." The side-to-side movements of the head were first noticed two months ago, and were followed in a week by the nystagmus. The head-movements were of the negative type, lasted only a few seconds, and tended to recur every few minutes if the head was unsupported; recently they had become less frequent. They ceased when the child was lying in its cot. The nystagmus was horizontal, and more marked in the right eye than the left. It was fine and exceedingly rapid. When the attention of the infant was directed to any object he gazed at it out of the corner of his eyes and with head averted. There was occasionally present a convergent strabismus, and twitchings of the left hand were said to occur.

The President asked whether the nystagmus was due to the original condition or to the leucoma which developed.

Dr. Bellingham Smith replied that it was possibly due to the child's high myopia, though he did not see why it should not occur apart from that and apart from the leucoma, as the nystagmus was becoming less marked.

Congenital Dilatation of the Colon. Dr. J. Porter Parkinson.—A girl, aged 6 years, was admitted into the Queen's Hospital for enlargement of the abdomen and constipation. Except for constipation and occasional colic the child had been healthy from birth, and there was no history of consumption or syphilis in the family. On admission the girl was healthy and well-nourished, not in the least anæmic. The heart and lungs were healthy except for displacement of the diaphragm upwards, which caused the heart's apex to be displaced into the fourth space and compressed the bases of the lungs. The abdomen was greatly distended, measuring twenty-nine inches in diameter, and the peristaltic movements of the colon were occasionally visible. It was not tender, and was generally resonant. Enemata brought away enormous quantities of fæces and the abdominal distension disappeared, so that now the measurement was only twenty-one inches. The colicky pains had disappeared. The skiagrams taken after injection of bismuth showed the great enlargement of the colon. Auscultatory percussion and other methods suggested that there was some enlargement of the stomach.

Mr. H. Skelding asked whether hypertrophy of the walls of the colon was always found in such cases and what form of operation was best. He did not think that the name usually given was sufficient.

Mr. P. L. Mummery condemned colotomy, the death-rate in such operations being 75 per cent. The operation was difficult to perform satisfactorily except in those cases in which the affected portion of the colon was excised, or exploratory laparotomy only was done. He had been successful in one case after performing appendicostomy. The name, he considered, was a wrong one, as hypertrophy was as marked as the dilatation.

Mr. D. C. L. Fitzwilliams said that it was taken for granted that these cases were always congenital, but he had known a case to occur after removal of the appendix.

The President said such cases varied considerably in type. There were cases in which portions of the colon were narrowed for a considerable distance. So called congenital dilatation of the colon was usually a mixture of dilatation and hypertrophy, though eventually there was usually general hypertrophy. Some cases had shown patches of hypertrophy and patches of dilatation. Some of the cases were congenital, and some babies had died from it at as early an age as six years. Probably a similar condition might occur later in life. One idea was that it was a neuro-muscular defect.

Cerebral Athetotic Diplegia.—Dr. E. Cautley. The patient was a girl, aged 2¾ years. The family history was negative, but the mother was only nineteen years of age when the child was born. At four months she could sit up, and this was an important point in favour of the condition being post-natal in origin. She cut her teeth quickly, and was said to have talked well at two years of age. She could walk a little by herself last October, but was never able to walk well as her feet turned out. Nine months ago she had a fall and about that time her back was found curved. For the last four months she had been kept on her back, and for a month or so she was said to have become "strange in her mind." The child was well nourished and her mental condition was lively but defective. She laughed and cried without obvious cause and could speak only a few words. Her expression was usually rather a vacant smile. The pupils showed no abnormality and there was no nystagmus. The fundi were normal. The palatal arch was high and the teeth were well developed. The head was asymmetrical, 18½ in. in circumference, and was always held a little to one side, as if there were slight torticollis, while the chin was receding. The hands showed ataxic and purposeless movements while at rest and some inco-ordination on movement. There was a little scoliosis in the mid-dorsal region with convexity to the right. The knee-jerks were exaggerated, especially on the left side. The legs were slightly stiff and the feet in the position of equino-valgus, but the deformity was easily reduced. The toes were not hyper-extended. The gait was ataxic and slightly spastic, and the right leg was somewhat flexed at the hip and externally rotated. There was also incontinence of urine. The condition was probably due to structural damage, possibly by mild encephalitis, of the frontal and parietal regions of the cortex.

Dr. L. Guthrie said the case was puzzling, especially if one regarded the history as accurate, which he did not believe. The child had a small head for its age, which favoured the congenital view. The head was asymmetrical and was suggestive of microcephaly. He thought there was some condition before birth which accounted for the athetosis. She was not an absolute idiot, but the prognosis was not good.

Dr. F. Langmead referred to the group of cases described by Captain Harrison when he investigated endemic goitres in India; they were cases

of children who were born of goitrous parents, whose brothers and sisters were cretins. Those cases closely resembled cerebral diplegia. The cases improved somewhat on thyroid. There were athetosis and marked cerebral diplegia.

Dr. C. R. Box said he concluded that the cases mentioned in Captain Harrison's paper were congenital diplegia. He had not seen any results on the condition from thyroid medication. In regard to the present child, he asked whether any investigation had been made concerning syphilis. Evidently a good number of cases of ante-natal diplegia had a syphilitic origin.

Dr. CAUTLEY, in reply, said there was no history suggestive of syphilis, but a Wassermann reaction would be done. He agreed with Dr. Guthrie that it was congenital and somewhat allied to microcephaly, and that as a rule the history was not to be relied upon.

Congenital Absence of the Pectoral Muscles. Mr. D. C. L. FITZ-WILLIAMS showed a girl, aged 13 years. Both the pectoral muscles were absent on the left side and the chest was flattened, and the ribs could be seen as well as felt on that side in consequence. This was best demonstrated by making her press her hands together with the arms stretched out straight in front of her. The anterior wall of the axilla was composed of a prominent fold of skin, which stretched from the front of the chest to the arm, almost in the manner of a web. There was an asymmetry about the shoulders, and the left scapula appears "winged," although the trapezius and serratus magnus muscles seemed normal. No other abnormality had been observed, and no history could be obtained of deformity in the family. The scars present were the result of the removal of tuberculous glands.

Dr. GUTHRIE said the scars were not the result of tuberculous glands, but lymphadenomatous ones. Treatment by arsenic caused the enlargements to disappear. A question arose whether the muscle was absent, or atrophied from peripheral neuritis due to the arsenic. He had not noticed the absence of the pectorals some years ago.

Anorexia Nervosa.—Dr. J. W. CARR.—The patient was a Jewess, aged 10 years. Her previous history was rather indefinite, as both parents are dead. She was said to have been healthy until she was five years old, when she lost her appetite, had pain in the stomach after food, and began to waste. Nearly three years ago she was in the Great Ormond Street Children's Hospital for six weeks. Her weight was then 25½ lb., and she gained 1½ lb. under treatment. Her appetite was very poor, and she vomited occasionally. No definite cause for the wasting was made out. She was admitted to the Victoria Hospital, Chelsea, last September. Her weight then was 26 lb., and was now about 27 lb. She was excessively emaciated, but could walk about quite easily. She had no appetite, and complained of a lump in her throat, which she said prevented food going down. She had been sick nearly every day since admission, often five or six times, usually very soon after taking food. Her temperature was generally subnormal, and there was no evidence of disease in any part of the body. Bismuth and the X rays showed that there was no obstruction in the œsophagus and no dilatation of the stomach. The tongue was sometimes much furred and sometimes clean. The bowels acted fairly regularly. The treatment tried has included isolation and massage, faradism, feeding by nasal tube, gastric lavage daily, starvation,

and chloretone, to produce drowsiness; but the vomiting continued, and the general condition remained unaltered.

Dr. C. W. CHAPMAN suggested that oil should be rubbed into the child, night and morning, by the fire. He would also give small doses of cocaine with the food. If that failed he would give bromide of sodium with beef-tea.

The PRESIDENT suggested there might be ulcer or pyloric spasm as a basis.

Dr. PARKES WEBER thought there might be supra-renal insufficiency.

Dr. CARR replied that there was no evidence of pyloric spasm associated with duodenal trouble. He did not see how supra-renal inadequacy would account for the vomiting. The suggestion as to cocaine was worth trying.

Specimens from a Case of "Delayed Chloroform Poisoning."—Dr. A. W. G. WOODFORDE.—A boy, aged 9 years, was admitted to the Queen's Hospital on November the 30th, 1910, for the removal of an enlarged gland in the right side of the neck. Except for the gland in question he showed no signs of disease. On the following day the gland was easily removed, anæsthesia lasting in all about fifteen minutes. On recovering consciousness he vomited once, and it was reported that he passed a comfortable night. On December the 2nd he vomited twice, but took the usual light diet well, and appeared to be in a satisfactory condition. December the 3rd: Slight vomiting on three occasions. On the morning of December the 4th he ate part of his breakfast, and was then noticed to be in rather a collapsed state. He appears to have reacted well to simple restoratives. He was said to have slept heavily during most of December the 4th, but was never unconscious. Early in the evening of the same day he vomited, and about 8 p.m. became unconscious. Two hours later respiration ceased. With artificial respiration the heart continued to beat until 3 a.m., December the 5th, five hours after the failure of respiration. The urine, tested shortly before death, contained a large amount of (?) acetone. Post-mortem examination: A gross, fatty degeneration was found in the liver, which was golden-yellow in colour, and in the heart, kidneys, and spleen. A few submucous hæmorrhages of small size were seen in the stomach. Caseating tubercle was found in one of the bronchial glands, and also in a mesenteric gland. Sections of the liver, heart, muscle, kidney, and spleen all showed an extreme grade of fatty degeneration.

Dr. GUTHRIE asked whether there was any history of cyclical vomiting with acidosis. He believed people who had that were potential victims of post-anæsthetic poisoning. Similar cases had occurred after other anæsthetics than chloroform, but he thought the latter the most dangerous of them. Before operations the patients should be carefully dieted, especially with regard to fats and carbohydrates, and some form of local anæsthetic would seem to be preferable for them. He outlined the various views which had been advanced on the subject.

Dr. J. BLUMFELD remarked that the heart continued to beat when artificial respiration was kept up so long. He did not think the case was one of delayed choloroform poisoning at all. The experimental evidence on the subject was contradictory, and it was still open to say that the anæsthetic played only a small part, and that there was some other factor, the nature of which was not known.

Mr. P. L. MUMMERY said these were very strange cases. The child seemed to have nothing more the matter with it than glands in the neck; it had a short operation, and in thirty hours it was dead, and its kidneys,

liver, and heart were solid masses of yellow fat. He could not understand how any agent could produce such an astounding result in so short a time. He did not think anything was known which fitted in exactly as a cause.

The PRESIDENT said the idea that the cases were due to fatty degeneration or fatty overloading of the liver and other organs was the most probable, and the anæsthetic might be regarded as the last straw, though how it acted was uncertain. He agreed that the cases were not due to acid intoxication.

Dr. WOODFORDE replied that no history of cyclical vomiting could be elicited; he had been healthy until the enlarged glands in his neck were noticed. He could not say much as to treatment, as the case only came before him from a pathological point of view. The child was infused with a solution of dextrose.

Angiomata of the Left Loin and Leg. Dr. E. I. SPRIGGS and Dr. J. B. MOLONY.—The patient was a girl, aged 4 years. In the left loin there was an irregularly shaped tumour extending from the eighth rib to $1\frac{1}{2}$ in. below the anterior superior spine and from the mid-Poupart line to the level of the posterior superior iliac spine. It lay superficial to the muscles, and was of a soft, doughy consistence, giving no expansile pulsation or thrill. In the skin over the tumour were numerous small nævi. There was a similar but smaller tumour in the adductor region of the left thigh extending backwards towards the fold of the buttock. On the left leg there were five pigmented swellings along the internal saphena vein, each of the size of a hazel-nut, and a small non-pigmented mass on the inner surface of the left foot. There were also numerous small nævi scattered over the back in a more or less symmetrical arrangement. The condition was present at birth. Except for enlarged inguinal glands on both sides the child showed no signs of other abnormalities.

Congenital Aortic Stenosis.—Dr. C. RIVIERE.—The patient was a boy, aged $5\frac{1}{2}$ years, with no history of rheumatism or "growing-pains." He was of normal size, nutrition, and colour. There were no finger-clubbing and no nodules. On the left side of the neck was the scar of a branchial fistula, which had been successfully operated upon three years ago. The heart appeared to be of normal size, but the impulse was forcible. There was a thrill over the aortic area, but no pulsation. A rough systolic murmur was audible over the whole heart, but of maximum intensity over the aortic area and conducted a long way into the large arteries. The aortic second sound was clear, and there was no evidence of a patent ductus arteriosus. The pulse, 100 per minute, appeared to be rather small and soft.

The PRESIDENT said he showed an older boy at the Medical Society, and, as such cases were uncommon, it was received with scepticism. The boy was then apparently in health, but a month later he suddenly died in the street. He exhibited the heart, which showed pure aortic stenosis.

Lichen Spinulosus.—Dr. J. L. BUNCH.—Some months ago the boy, who was $2\frac{1}{2}$ years old, had an eruption of apparently blackish specks on the chest and later on the shoulders. The lesions present consisted of fine pigmented spines, which could be easily removed, and left definite depressions marking the openings of the follicles, some of which had become infected by staphylococci. There were also some lesions in the groin, but the characteristics of Lichen spinulosus were not so well marked in that situation.

A Paper on the Oculo-Motor Type of Polio-encephalitis was read by Mr. SYDNEY STEPHENSON (*v.* p. 145).

The PRESIDENT remarked that it was curious so few of the cases should have been associated with acute anterior poliomyelitis. The recent tendency had been to assume that poliomyelitis and polio-encephalitis were the same disease, varying only in their distribution, and that the inferior polio-encephalitis might be limited to the nucleus of one muscle. He showed such a case a few years ago in which the sixth and third nerves were both affected. He did not know why Mr. Stephenson said the cases were paralytic in type, as opposed to the ordinary type of convergent squint. He would be glad to learn what was the causation and the prognosis. Was it a toxæmia of the nucleus which might be recovered from, or was it followed by atrophy, and therefore incurable?

Dr. BOX said he had for some time thought that a similar explanation to that advanced by Mr. Stephenson might apply to certain cases of facial paralysis. It was not uncommon to see paralysis of the facial nerve in which there was no indication of ear or throat disease. They might be nuclear palsies; and he once saw a case in which there was palsy of the sixth nerve as well as facial paralysis. He criticised Mr. Stephenson's grouping of cases.

Dr. BELLINGHAM SMITH was not sure that Mr. Stephenson had proved his point that the conditions described were polio-encephalitis. He thought there were other conditions which might cause the paralyses. He had noticed that type of squint after a violent attack of coughing in a boy, aged 10 years. He thought it was not polio-encephalitis, but a little hæmorrhage. And sixth nerve injury was common in fracture of the base of the skull. The same nerve was oftenest involved in congenital paralysis.

Dr. J. D. ROLLESTON suggested that the only way to determine the nature of the condition would be experimentally by injecting part of the affected brain into monkeys. Wickman, in his monograph on Heine-Medin's disease, mentioned a pontine form of the disease, in which, as in Mr. Stephenson's cases, the abducens nerve was more frequently affected than the oculo-motor.

Mr. STEPHENSON, in reply, said he was satisfied that the cases he had described were not ordinary concomitant convergent strabismus cases. His main grounds for the assertion were – the sudden onset of the squint, and the fact that the squint was paralytic. In determining whether a case was one of paralytic squint, it was necessary to examine the corneal reflex. He did not contend that the group was a homogeneous one, but he brought the paper forward to elicit discussion.

MIDLAND MEDICAL SOCIETY.

THE Sixth Ordinary Meeting of the Session was held on February the 1st, 1911, at the Medical Institute, Birmingham, the President, Mr. HASLAM, being in the chair.

A Case of Severe Rickets with Coxa Vara.– Mr. GEORGE HEATON showed a girl, aged 7 years, with severe rickets, and also skiagrams of her pelvis, spine, and other bones. The girl was only thirty-four inches high. She had extreme lordosis of her lumbar spine, and had the gait of a patient

with congenital dislocation of the hip. There was marked double coxa vara, the great trochanters being on a higher level than the iliac spines, and movements of rotation inwards and abduction of the thighs were very limited. The skiagrams showed that the neck of the femur on each side was horizontal and curved with a convexity forward. The pelvis, as shown in the skiagram, was extremely oblique, and of the malacosteau or triradiate variety—both acetabula being driven inwards by the weight of the body acting on the heads of the femora. Two other children of the same family were the subjects of rickets.

A Case of Acromegaly.—Mr. Leedham-Green showed a young girl, aged 15 years, suffering from marked acromegaly. The patient was first noticed to be growing abnormally fast in her ninth year, and was now, although with marked dorsal curvature, 6 ft. $6\frac{3}{4}$ in. in height. Her face, hands and feet showed the characteristic changes. A skiagram taken of the skull indicated an abnormally large sella turcica, but there were no ocular symptoms pointing to intra-cranial pressure. The question of operative interference by removal of the pituitary body was raised, but the patient's relatives decided against it.

A Case of Sarcoma of the Kidney.—Dr. Walter Jordan showed a girl, aged $2\frac{1}{2}$ years, with an abdominal tumour, as a case for diagnosis. For some two months the mother had noticed enlargement of the abdomen, and declared that she could see an increase in the size each week. The child had become slightly thinner since having measles at Christmas, and had lost appetite and been very constipated; she had vomited twice only. On admission to hospital the child was well nourished and healthy in aspect. Constipation was overcome, and an apparently solid tumour was found to occupy the entire left half of the abdomen and reach well over into the right iliac region. The tumour had an irregular rounded edge anteriorly, and was lost posteriorly under the spinal muscles. The colon could be made out crossing it. There was no history of hæmaturia before admission, and there had been none since. Dr. Jordan regarded the case as one of renal sarcoma. No other opinion was expressed.

Specimen of Sarcoma of the Kidney.—Mr. Nuthall showed a specimen of sarcoma of the left kidney taken from a female child, aged 2 years. A tumour had been noticed for five months before death, which followed on progressive emaciation and weakness. The growth appeared to take origin at the upper pole of the left kidney, and to be distinct from the renal tissue, a capsule intervening, but the upper portion of the kidney was distorted and replaced by the main mass of the tumour. Extending from the hilum of the left kidney were numbers of greatly enlarged retro-peritoneal glands, overlying the spine and reaching across the right kidney and down into the hollow of the sacrum. A peculiar and unusual condition of the mesentery was present; it was solidly enlarged by masses of glands contiguous with, and inseparable from, the adjacent growth in the kidney; in this way the small intestine largely, and the descending colon altogether, were in front of the tumour. The right kidney was enlarged and hydronephrotic, but not involved by the new growth. The left supra-renal capsule could not be found. The right supra-renal capsule was of normal size and shape.

MANCHESTER MEDICAL SOCIETY.

February the 15th, 1911.

Sprengel's Shoulder.– Mr. J. Howson Ray showed a boy, aged 4 years, the subject of congenital elevation of the left scapula. A prominent hook-like process of bone presented in the neck, and this was shown to be the superior angle, which was strongly rotated outward and forward, whilst the inferior angle of the scapula was carried inwards to within half an inch of the vertebral spines, and was at the level of the third rib, and was situated two inches higher than the inferior angle of the right scapula. The whole left shoulder was elevated so that the neck on the left side appeared to be obliterated, and the case had been thought to be due to injury with fracture of the coracoid process.

An excellent skiagram of the condition was also presented showing the condition to be entirely congenital and of the commonest type of Sprengel's shoulder.

Congenital Absence of the Right Fibula and the Three Outer Toes.—Mr. J. Howson Ray showed a case in a boy, aged 10 years. A skiagram of this case showed apparently only three tarsal bones, viz. a well-formed os calcis, an astragalus, with unusually prolonged neck and head, and the internal cuneiform bone articulating with the metatarsal bone of the big toe, whilst the second toe appeared to articulate directly with the head of the astragalus The right leg was nearly three inches shorter than the left, and the foot was in the position of talipes equino-valgus.

Sublingual Dermoid Cyst and Enlarged Thyroid Gland. Mr. Howson Ray showed a case in a girl, aged 11 years. The mother stated that the lump had been observed for two months only, but that it had enlarged rapidly of late. The tumour was the size of a large Tangerine orange, projecting beneath the tongue in the floor of the mouth, lifting the tongue so as to interfere with mastication, and at the same time caused a very evident fulness in the supra-hyoid region. The mucous membrane in the floor of the mouth was unaltered in colour and general appearance.

(Operation was carried out two days later by incision in the supra-hyoid region, when the cyst was dissected out completely, and it was found to draw the tongue down distinctly at the foramen cæcum when the tumour was nearly enucleated. The wall of the cyst was thick, about $1\frac{1}{2}$ mm. in section, and the contents epithelial *débris*.)

Head-nodding.—Dr. C. P. Lapage showed a boy, aged 11 months, with nystagmus, which was sometimes unilateral, and head-nodding of the antero-posterior type. The child showed signs of rickets, and the head-nodding had been present for three weeks.

Congenital Heart Malformation.– Dr. C. P. Lapage showed a girl, aged 13 years, with a rumbling systolic murmur, loudest at the base, but heard all over the chest. A basal diastolic murmur was also present. The X rays showed that both ventricles were large and globular, but that the

chief enlargement was in the auricles, which were very prominent, and in the aortic arch, which was almost aneurysmal.

Total Bilateral Deafness due to Hysteria.—Dr. Arnold Jones showed a case of a girl, aged 8 years, healthy and strong in appearance, who went to bed quite well on November the 21st, 1910. Upon wakening in the morning she was quite deaf to the human voice. When examined nine days later she was at first apparently stone deaf to the voice and loud noises, but stated that she heard tuning-forks even when they were not resonating. Bone-conduction was entirely absent. There were no history of any previous organic disease, and no signs of congenital syphilis. There were a large mass of adenoids in the naso-pharynx and signs of a slight chronic middle-ear catarrh on both sides. Since becoming deaf she had two "attacks of blindness," transitory in nature, and also had suffered from functional aphonia. On January the 12th, 1911, the adenoids were removed, and during her stay in hospital her hearing was normal. On her return home she again became stone deaf, and had remained so up to date, with some intervals during which the hearing becomes normal.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

March the 2nd, 1911.

Congenital Family Cholæmia.—Dr. Ashley W. Mackintosh exhibited a case in a boy, aged 7 years, who was admitted into the Aberdeen Royal Infirmary on October the 31st, 1910. He was intelligent, well-nourished, and moderately strong. The skin was slightly jaundiced and the conjunctivæ yellow. At times the jaundice was more intense and the boy then felt drowsy. The mucous membranes were somewhat pale. The spleen extended to an inch below the umbilicus. The liver did not show appreciable enlargement. The urine never contained bile-pigment. It was high-coloured owing to excess of urochrome. The blood showed a reduction of red cells and hæmoglobin. Microcytes and megalocytes were present, especially the former. There was both polychromatophilic and basophilic degeneration. The white cells showed polymorphs 5·8 per cent., myelocytes ·4 per cent. The serum gave a reaction for bile-pigment. The Wassermann reaction was negative. There was increased fragility of the red cells to hæmolysing agents. The boy had been jaundiced since shortly after birth. He had also a sister who all her short life was deeply jaundiced.

Birth Palsy of the Upper Extremity.—Mr. Gray showed two cases: (1) A boy, aged 5 years. The supinators and radial extensors of the wrist were completely paralysed, while the deltoid, brachialis anticus, biceps and triceps were only slightly affected. The spinati muscles were apparently unaffected. Operation confirmed the diagnosis of complete physiological blocking of the sixth cervical root. There was no trace of the sixth nerve found unless a slight thickening represented the residue of it at the site where it usually joins the fifth. It was obvious that nothing could be done by plastic operation on the upper part of the brachial plexus. Mr. Gray proposed to transplant the tendon of the flexor carpi ulnaris through the

inter-osseous membrane on to the tendons of the radial extensors of the wrists, and thereby to procure both extension and supination at the wrist, which he had previously attained in cases of complete musculo-spiral paralysis by similar means.

(2) Child, aged 6 months. When seen at three months of age it showed the typical position produced by a physiological blocking of the fifth and sixth cervical roots, viz. adduction of the arm, extension at the elbow, flexion and strong pronation at the wrist with extension of the fingers—a frequent position of one surreptitiously receiving a "tip"! The mother stated then that she thought the child was getting a little power in the arm, so mild massage and electrical treatment were prescribed. When shown the child had almost completely acquired full range of movement, although during repose the arm tended to assume the typical position.

Mr. Gray remarked how difficult it was to prophesy the results in these cases of operative interference on the brachial plexus. In his experience less than 50 per cent. *could* be helped by excision of scar, end-to-end suture of nerves, etc. It was probably best not to interfere by operation in such cases until four months had elapsed. If improvement had not begun by that time it probably would never occur spontaneously.

Sub-periosteal Hæmorrhage.—Mr. Gray also showed a case of sub-periosteal hæmorrhage involving the frontal and left parietal bones, which, besides presenting the typical symptoms of such hæmorrhage, illustrated the extreme difficulty which sometimes occurs in such cases in distinguishing them from depressed fracture. In this case the effusion had occurred on the third day after injury. There was no history of hæmophilia. Mr. Gray stated that he considered that probably in all cephalo-hæmatomata, and most certainly in cases where doubt as to fracture existed, the best and quickest treatment was incision so as to remove blood or clot.

Philadelphia Pediatric Society.

Meeting, February the 14th, 1911, J. Torrance Rugh, M.D., President.

Bacillus Coli Infection of the Urinary Tract.—Drs. Charles A. Fife and George M. Laws reported the case of a girl, aged 6 years, admitted to the Presbyterian Hospital September the 9th, 1910. Maternal grandmother, a maternal grand-aunt and three of her children probably had phthisis. Both parents under-nourished. Home and personal hygiene good. Child never strong; three attacks of "cholera infantum"; at least one severe attack of enteritis or entero-colitis every year since. In all these attacks there was much pain in hypogastrium and lumbar regions. Urine at these times said to be foul and occasionally contained blood. In May, 1910, a similar attack; vomiting, numerous bloody, mucous, liquid stools, pains in lower abdomen and back, foul urine, dysuria, little blood in urine. Though the acute symptoms lasted three weeks, the patient had been very languid since, not playing or talking much. In July she had another acute attack, with rigors, vomiting, diarrhœa with blood and mucus, pain in lower abdomen, high fever and prostration. Symptoms subsided in two weeks but recurred in another week, again lasting two weeks. She became worse again when out of bed a few days. All symptoms were referable to the

gastro-intestinal tract with exception of the frequent and painful micturition and the foul-smelling urine. The urinary symptoms were overlooked by the family and medical attendants, typhoid fever being suspected. Eighteen months before admission to the hospital she had an alveolar abscess involving the antrum; this drained for about four months, associated with nervous symptoms suggesting chorea. The nature of the infection was not determined. No history of other infectious diseases. On admission child was evidently toxic; markedly emaciated; pallor decided but of a muddy hue; apathetic, lying quietly curled on one side, without speaking or paying any attention to surroundings. There was no paralysis, but she only ate or drank after great persuasion. No adenopathy; heart and lungs and liver negative; spleen and kidney not palpable; two skiagrams of kidney region negative; abdomen slightly distended; no vulvo-vaginitis; joints normal, reflexes sluggish. Temperature very irregular, ranging from 97·5° F. to 102·2° F.; pulse corresponding, from 80 to 140, and respirations from 20 to 30. No vomiting; no rigors; stools soft, only two or three daily; some mucus; traces of blood in first stool only; no ova, no parasites. Incontinence of urine; amount of urine apparently normal, quite cloudy, purulent odour, strongly acid, specific gravity 1005, traces of albumin, no sugar, no casts, many pus-cells. Hæmoglobin 70 per cent., leucocytes 15,200; Widal negative. There was little improvement during three months upon bland diet and urinary antiseptics. The temperature would subside for a few days, the child becoming less apathetic; she would take nourishment more readily, exercised control of bowels and bladder, gave no evidence of pain; voluntary movements slightly inco-ordinate, suggesting chorea. Eight times in this period, however, there were decided exacerbations; temperature would rise to 103° or 104° F.; apathy increased; anorexia became marked; abdomen became distended, not especially tender, though on one or two occasions there was tenderness over the left kidney region; no diarrhœa, but motions became soft, and contained mucus. Urine became more foul and contained more pus. The amount was apparently not affected but exact measurement was impossible. During these three months the urine was examined every third or fourth day, was constantly acid, and always contained many pus-cells and motile bacteria, with an increase in number at the time of the acute attacks. Pure cultures of *Bacillus coli* were obtained from the urine. Urine, stools and sputum showed no tubercle bacilli. The blood was examined seven times, hæmoglobin ranging from 65 to 80 per cent., red cells about 5,000,000, leucocytes from 9500 to 18,000. Differential count was—polymorphonuclears 57 per cent., lymphocytes 30 per cent., large mononuclears 8 per cent., transitionals 1 per cent., eosinophiles 4 per cent. Agglutination test for typhoid and paratyphoid negative. Blood-cultures negative. Von Pirquet tuberculin test negative. On December the 13th, after the temperature had been between 100° and 104° F. for ten days and all the constitutional and local symptoms had been at their worst, an autogenous vaccine containing 50 million bacteria, prepared by Dr. D. B. Pfeiffer, clinical pathologist to the hospital, was injected. Constitutional symptoms were immediately alleviated and the next day the temperature was normal. December the 16th, 100 million, December the 19th, 150 million, December the 22nd, 200 million, and December the 25th, 250 million bacteria were injected. During this period the temperature remained normal and the general condition improved greatly; immediately after the vaccination of December the 25th the temperature rose to 102° F. and the child became listless. December the 28th, though the temperature was subnormal, 30

million bacteria were injected unwisely. Marked constitutional reaction immediately followed, with return of all symptoms except lumbar and hypogastric pains. The temperature became normal January the 9th, and on the 13th 100 million bacteria were injected. Since then she had had four injections of 100 million bacteria each. She has been free from local or constitutional symptoms and the general health has been marvellously improved. She was now running about, playing, eating well, and losing her choreiform movements and gaining weight rapidly. Hæmoglobin was still 70 per cent. The urine still contained many pus-cells and bacteria and gave pure cultures of *Bacillus coli*. The above, with the following cystoscopic examination by Dr. Laws, justified the diagnosis of chronic uretero-cystitis with pyelitis and probably pyelonephritis due to *Bacillus coli* infection. The infection was probably an ascending one.

Dr. G. M. Laws reported that cystoscopic examination revealed a moderate degree of cystitis involving the trigone. The ureteral orifices were markedly dilated and did not contract. The ureters themselves were dilated and infiltrated so that their intra-vesical portions were distinctly outlined. Flakes of pus were exuding from the left ureter. Ten cubic centimetres of a $\frac{4}{10}$ per cent. solution of indigo-carmine were injected intra-muscularly. The colour appeared at the end of eighteen minutes on the left side and twenty-one minutes on the right, indicating involvement of the parenchyma of the kidneys as well as their pelves. The condition of the ureters was a noteworthy feature of the case, since in an adult, in the absence of urethral obstruction, it would be regarded as strongly suggestive of tuberculosis. Kapsammer had recently stated that dilatation and thickening of the ureter occurred in association with pyelitis when the lesion was due to an ascending infection. A survey of the literature on *Bacillus coli* infections of the urinary tract in childhood disclosed a number of autopsy records, in a large percentage of which a similar condition of the ureters was mentioned. These observations were, therefore, additional evidence in support of the theory that pyelitis was secondary to cystitis in the type of infection under consideration.

Dr. J. F. Sinclair said that Dr. Jopson and he had reported a somewhat similar case recently, sent in with the diagnosis of appendicitis. Rigors in pyelitis were of importance in making the diagnosis, since chills were uncommon in childhood.

Dr. D. J. M. Miller said that infections of the urinary tract must be a great deal commoner than the profession believed. Within two years he had seen three cases of mild urinary infection in private practice. He referred to Friedlander's recent article; he had found girls no more frequently affected than boys. One of his cases, in a boy, followed otitis, another followed measles, and the last colitis, the two last in girls. It was the most common cause of unexplained fever in children, next to otitis media, and should always be borne in mind.

Dr. Fife said that the condition was probably much more common than was generally believed. He thought that Goppert found evidence of colon infection of the urinary tract in about 1 per cent. of all cases in his clinic. Many observers gave a higher percentage of infection in girls than Friedlander (72·5 per cent.); of Abt's 22 cases, 21 (95·5 per cent.) were females; of Escherich's 11 cases, 100 per cent. were female; of Box's 19 consecutive cases only 1 was a male, and Goppert found 89 per cent. of his cases female. The infection probably ascended through the urethra most commonly, but it might descend in the blood-stream. Direct infection

might occur from the colon to the bladder, but only when the mucous membranes of both colon and bladder were abnormal. Most cases occurred before the age of four years. In this girl, now aged 6 years, the infection might date from infancy.

(*To be continued.*)

Société de Pédiatrie, Paris.

January the 17th, 1911 (*Bulletin No.* 1).

Hypo-alimentation in Infants.—Mme. Nageotte-Wilbouchewitch, continuing the discussion on M. Merklen's paper, stated that the habit of under-feeding had become very frequent among the young mothers of the Russian colony at Paris, students, artists, etc., who adopted scientific formulæ and gave the breast every three hours for five minutes. On the other hand, the poorer Russian Jewesses, guided only by instinct, reared healthy children.

M. Variot was glad to have his observations confirmed by those of the previous speaker and M. Merklen. It had been erroneously stated that the vomiting due to inanition (there was no question of hypo-alimentation at this period) had been described by Parrot in his work on athrepsy; but there was not a single passage in the book which justified the assertion. Hypo-alimentation and the disturbance caused by it dated especially from five or six years ago, and were the consequence of ill-founded doctrines prevailing in lying-in institutions; in country districts, where the mothers were free from this influence, the infant mortality was under 4·5 per cent. He drew attention to two striking facts: the attitude assumed by these infants was constant; they kept both hands at their mouth with the fingers thrust in as far as possible, which they sucked with avidity; they often slept in this position. He had practised radioscopy on several infants and noticed that the stomach was empty of milk and transparent as if it contained a certain quantity of air; after a bottle this air-chamber was sometimes larger than normal, but in all these cases the spasmodic contraction of the muscular coat nevertheless took place and the stomach eventually assumed its opaque globular aspect. In these circumstances it was probable that the air was swallowed by sucking the fingers; it differed, however, from the aërophagy described by Lesage in that it existed before the ingestion of milk. Probably aërophagy played an important part in causing vomiting.

Congenital Syphilitic Sclerosis and Leucoplasia of the Tongue in Two Brothers.—M. Merklen reported this case in two brothers, aged 18 and 22 months, who had also similar anal plaques.

Digestive Physiology and Coprology; Characteristics of a Normal Stool.—M. Triboulet. The objective characters of stools were insufficient to afford precise information. The reaction with sublimated acetic acid was of practical value. With this reagent there was a *normal type* which allowed one to affirm that all was normal in the digestive physiology of a subject submitted to a known diet (milk and hydrocarbons). A deposit at the bottom of the tube, finely granular, with a rose-coloured

homogeneous, turbid, supernatant fluid indicated that, the secretion of biliary pigment being normal, that of the bile-salts must be also normal, and that therefore the stomach, pancreas and intestinal mucosa were functionally perfect. As regards the latter the rose reaction in the tube indicated a physiological participation of the ileo-cæcal region, of which the lymphoid masses seemed to be the active agents in the transformation of the bilirubin into stercobilin. If the deposit floated to the top it indicated either mucus (catarrh) or fat (dyscholia or acholia). The normal stool of a breast-fed infant should give an acid reaction, that of a bottle-fed an alkaline.

Arteritis Obliterans and Suppurative Parotitis.—MM. Nobécourt and G. Paisseau reported the case of a girl, aged 5 years, who was attacked during a course of a gastro-enteritis with swelling of one leg due to the blocking of the artery from thrombosis or embolism, of such intensity that sloughing threatened. Suppurative parotitis then ensued. These conditions were probably due to a septicæmic condition. Staphylococci found in the pus from the parotid proved fatal to rabbits.

Three Anomalous Cases of Chickenpox.—M. Merklen related cases with diffuse adenopathy, torticollis during the invasion period, and pruritus at the onset of the eruption.

MM. Trèves and Schreiber showed a boy, aged 14 years, with a cutaneous tuberculide which was papillomatous over the foot, gummatous on the leg, and rupioid on the thigh. Radioscopy showed a thickening of the head of the first metatarsal bone. Wassermann's reaction negative. No sporotrichosis.

Vincent Dickinson.

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

The Seventeenth International Congress of Medicine will meet in London in the summer of 1913. The exact date is to be fixed by the International Permanent Committee, which will assemble for the first time in London on April the 21st and 22nd next, under the presidentship of Dr. F. W. Pavy.

Abstracts from Current Literature.

Medicine.

Cases of tetanus (*'St. Thomas's Hospital Reports,' vol.* xxxvii, 1908, *p.* 69).—**G. G. Butler.**—Male, aged 7 years. Date of injury doubtful whether two or five weeks previously. Five spasms on day of admission; these gradually got fewer under treatment. No spasms after being in hospital nine days. Female, aged 7 years. There was a history of four days' illness. No external wound was discovered. There was slight ulceration of one tonsil and one carious tooth as possible sites of inoculation. Spasms occurred on first seven days after admission. Discharged apparently well, but seven months after first onset she was re-admitted with apparent

recurrence. One very severe spasm occurred in hospital. Another recurrence was noted. The case was eventually regarded as functional. The tetanus bacillus was not found in either case. Treatment consisted of intra-thecal and subcutaneous injections of anti-tetanic serum, chloral and morphia being given in addition. James E. H. Sawyer (Birmingham).

A case of infantile tetanus (*'La Clin. Infant.,' December* 15, 1910, *No.* 24, *p.* 750).—**Delpent** relates a case where the infection was through the umbilical wound. When seen the child was eighteen days old; had trismus and contractions of the limbs. There was an ulcer at the site of the umbilicus, and the general condition was bad. Ten c.cm. of anti-tetanic serum (Pasteur) were injected into the flank and repeated twice after intervals of two days. Improvement set in after this, the wound healed in six days, and the infant recovered without any further complication.
Vincent Dickinson.

Tetanus following vaccination (*'Med. Record,'* 1910, II, *p.* 811).—**C. D. Scott** records two cases, one of which was fatal, in boys aged 6 and 7 years respectively. The interval between vaccination and the development of tetanus was in each case twenty days. As the normal incubation period for tetanus is from seven to fourteen days, the tetanus infection in all probability did not take place at the time of vaccination, either through the virus or as the result of faulty technique, but about a week subsequently. In both cases the dirty surroundings of the patients made opportunities for secondary infection extremely favourable. Furthermore, in neither of the schools attended by the children, in which a large number of vaccinations were performed on the same days, did another case develop. In St. Louis serious complications following vaccination have been extremely rare. During the past three years, in a total of 30,000 vaccinations these two were the only serious cases, and include the only death which could in any way be attributed to the operation. J. D. Rolleston.

Tetanus following vaccination (*'New York Med. Journ.,'* 1911, I, *p.* 275).—**B. T. Silverstein** records two cases in a girl aged 9 years and a boy aged 7 years respectively. The incubation period in the one was four days, and in the other two weeks. Infection in the girl's case was probably due to her removing the scab with dirty fingers. Both were treated by subcutaneous injections of tetanus antitoxin, the girl receiving 10,500 units, and the boy 20,100 units, as well as by rectal injections of chloral and bromide. Both recovered. J. D. Rolleston.

Congenital tuberculosis (*'Rev. d'hyg. et de méd. Inf.,'* 1910, *No.* 4, *p.* 352).—**Wahlen,** in a previous article (No. 3), defended the hypothesis of Baumgarten as to the ætiology of tuberculosis by direct transmission to the fœtus, and states in conclusion that if we want to make any progress in the struggle against tuberculosis, it will be imperative to make a clean sweep of existing ideas on heredity of the soil and contagion. He thinks that we must retrace our steps and examine again Baumgarten's hypothesis, which, in his opinion, has been abandoned for specious reasons and on insufficient evidence. He says that discoveries in the laboratory and the new ideas which some have endeavoured to draw from them have given a false feeling of security, and that what we actually know, to be of real use to us, must be enlarged and reconsidered. J. E. Bullock.

Tuberculosis in children (*'New York State Journ. of Med.,' November*, 1910, *p.* 519).—**Goodall** concludes that tuberculosis is a common disease among children. While the path of entrance is almost always through either the digestive or the respiratory tract, congenital tuberculosis is undoubtedly a possibility. During infancy tuberculosis presents a picture altogether different from that seen in adults; the glandular system frequently bears the brunt of the disease; miliary tuberculosis, tubercular meningitis, abdominal tuberculosis, and bone tuberculosis are relatively frequent; marasmus and erythema nodosum may be due to tubercular toxæmia. Pulmonary tuberculosis gives the signs of localised bronchitis, often at the base of the lungs, the râles may be very few, and are often only heard after cough, the classical signs of infiltration and consolidation are usually absent. If the lungs are involved there is usually a rapidly progressing fatal disease. After the twelfth year the lung symptoms approach more to the adult types. A negative von Pirquet test goes far, at any age, towards excluding tuberculosis—that is, if tuberculosis is not far advanced, if the patient is not in a cachectic condition from any cause (a positive reaction may be caused by typhoid fever), and if he has not had measles within a short time. A positive von Pirquet test during the first two years of life is strong evidence of active tuberculosis, as latent disease is very uncommon at that age. In older children a quick, strong von Pirquet reaction usually indicates more or less active disease, while a late or poorly marked reaction indicates latent or inactive disease. In children from six to twelve years of age, with incipient or moderately advanced pulmonary tuberculosis, the prognosis is better than among adults. Finally he urges the great need of outdoor schools and better ventilation in all schools, and State homes for poor children, who cannot be suitably safe-guarded and reared in their own families.

J. E. Bullock.

Conditions which simulate phthisis pulmonalis in children (*'The Polyclinic,'* 1910, *p.* 93).—**Clive Riviere.**—Pulmonary phthisis in children is not so common as some suppose. At the City of London Hospital for Diseases of the Chest, among 1196 cases of phthisis only 31, or 2·6 per cent., were children of school age, and at the East London Hospital for Children the cases of phthisis were fewer still. Riviere divided cases simulating pulmonary phthisis in children into: (1) Lung conditions: (*a*) physiological conditions, such as blowing breathing at the right apex and in thin children at both apices; (*b*) bronchiectasis and fibrosis, distinguished by the position and nature of the lesions and the general nutrition; (*c*) pulmonary collapse due to bronchial catarrh, nasal obstruction, or both; (*d*) unresolved apical pneumonia; (*e*) tuberculosis of thoracic glands, from which 20 per cent. of living children suffer. (2) General conditions, of which chronic gastro-intestinal catarrh is the most important. Diagnosis must be made by clinical examination, and the use of the specific tests for tuberculosis.

J. D. Rolleston.

The diagnostic value of von Pirquet's tuberculin reaction (*'Brit. Med. Journ.,'* 1910, i, *p.* 1159).—**Percival Mills,** as the result of investigations in 123 children under twelve, arrives at the following conclusions: (1) Healthy children under twelve do not give the reaction; he found that forty-eight children who showed no evidence of tuberculosis in themselves or in their family history gave no reaction. (2) Tuberculous cases, with rare exceptions, give the reaction. In nineteen children, tuberculosis was proved at an operation or by post-mortem examination or by microscopical examination when not

obvious, definite caseation in lymphatic glands being considered tuberculous. In two cases which gave no reaction there was found on operation to be tuberculous peritonitis in one case; in the other case there was a tuberculous hydrocele. As tuberculous hydrocele is fairly commonly associated with tuberculous peritonitis, it may be assumed that the peritoneum was tuberculous. It has been found that tuberculous peritonitis has always given a negative result with Calmette's reaction, so it may be expected to be negative in von Pirquet's reaction. (3) The reaction is of value in doubtful cases (i) clinically diagnosed as tuberculous (no pathological diagnosis possible). Thirty-four gave the reaction, and the course and termination of the disease supported the clinical diagnosis. Nine gave no reaction; of these, eight eventually proved to be almost certainly not tuberculous; in the remaining case (spinal caries) the reaction may have been misleading. (ii) Clinically doubtful. In eleven cases three gave a positive reaction; of these, two were subsequently proved to be tuberculous, and one was a case of lymphadenoma. The reaction was possibly misleading, but some pathologists have considered lymphadenoma to be a form of tuberculous infection. Eight cases giving a negative reaction subsequently proved to be non-tuberculous. **J. W. Bride** (*ibid., p.* 1161) thinks that von Pirquet's reaction helps (1) the early diagnosis of pulmonary tuberculosis, and distinguishes it from unresolved pneumonia and chronic bronchitis; (2) the early diagnosis of abdominal tuberculosis, and distinguishes it from enteric fever; (3) the diagnosis of the cause of pleuritic effusions. It is not helpful in the diagnosis of (1) tuberculous meningitis; (2) tuberculosis in a child suffering from an acute infectious disease; (3) tuberculosis with much pyrexia.

J. E. Bullock.

Influence of various diseases on the von Pirquet reaction (*'Münch. med. Wochens.,' November* 1, 1910. *Abst. 'Journ. A.M.A.'*).—**Rolly** reports experiences showing that in the course of various infectious diseases the tuberculin skin test may elicit a negative changing to a positive reaction during convalescence even in the absence of tuberculosis. He argues that this is not due to some general immunity process, but rather to local modifications in the skin itself.

T. R. Whipham.

The von Pirquet tuberculin reaction in the non-tuberculous (*'Corresp.-Blatt. f. Schweiz. Aert.,' November* 1, 1910. *Abst. 'Journ. A.M.A.'*). —**Dumont** states that infants with eczema seem to respond to the von Pirquet test, even when they are apparently free from tuberculosis, and that this sensitiveness to the test is sometimes encountered under other conditions. A second inoculation will generally clear up the diagnosis, as the tuberculous are liable to give a strong reaction the second time, while in the non-tuberculous the response, if present at all, is much weaker. In young infants the skin is sometimes found insensible to the action of tuberculin. In a few cases the child responds with such intensity that ulceration follows, and in lupus cases morbilliform and scarlatiniform eruptions have been described. Animals injected with the blood of such patients, followed by an injection of tuberculin, rapidly succumbed, confirming the assumption that the explosive reaction was due to a specially large proportion of anaphylactic anti-bodies in the patient's blood.

T. R. Whipham.

The value of the tuberculin reaction in the diagnosis of tuberculous conditions in children (*'Cleveland Medical Journal,'* 1910, *p.* 599).—**W. P. Lucas** reviews the results of the tuberculin reaction as a diagnostic measure

in 548 cases. The subcutaneous test was made in conjunction with one or more of the other tests in 25 cases only, and so is left out of consideration by the author in his review. The ophthalmic reaction was performed in 130 cases and the cutaneous in 418. He had had no bad results with the use of the ophthalmic reaction, an issue which he attributes to the use of mild lotions as soon as a definite reaction occurs. The ophthalmic reaction is not so likely to occur in negative cases as is the cutaneous, but is more likely to occur in acute cases. Cutaneous reactions are the least objectionable, and if properly controlled and judged with a careful physical examination are of definite value. Of the 418 cases tested in this way, 130 were positive clinically. There were positive reactions in 85·2 per cent. of these cases; 14·8 per cent. of them gave negative reactions. There were 108 negative cases clinically, only 9·3 per cent. of which gave a positive reaction. In 174 clinically suspicious cases, 57·4 per cent. gave positive and 42·6 per cent. negative reactions. There were 30 cases of tuberculous meningitis, 20 of which gave positive reactions, sometimes delayed. In the 10 which gave a negative reaction he could make no clinical distinction from the others which gave a positive. There were 14 cases of tuberculous peritonitis, in all of which the reaction was positive. Thirty were cases of pleurisy, of which 20 gave a positive reaction. As regards age, 17 per cent. of the patients were under 1 year old; 35 per cent. were 2 years or under; 62·5 per cent. were under 5; 37 per cent. were between 5 and 12; and 94 per cent. were under 10 years. To compare the different kinds of tuberculin, he used bovine bouillon filtrate, human bouillon filtrate, and Koch's old tuberculin. In supposedly positive cases only 11·6 per cent. gave no reaction, whereas in 58·2 per cent. all three reacted. There were 2·4 per cent. in which reaction occurred with both the human forms, but not with the bovine, whereas there were 27·8 per cent. in which old tuberculin produced reaction, and 7 per cent. in which the bovine and the old tuberculin did so, the human bouillon filtrate failing. In none of these was the bovine positive and the human negative. The series comprised 50 cases of cervical adenitis. In another series comparing suspected pulmonary tuberculosis, bronchitis, and lobar pneumonia, there were only 5 per cent. of positive reactions in lobar pneumonia, but 69 per cent. in the suspected tuberculous cases. Negatively the reaction is of little value. There is no danger in any of the local tests, as out of 500 cases there were practically no systemic disturbances. The comparison of the different forms of tuberculin confirms the view that no differentiation can be made between infection by the bovine and human types of bacillus. It would seem that old tuberculin is by far the best form to use. A study of these results shows that the presence of a positive reaction is to be taken seriously in considering one's opinion of a case in conjunction with adequate clinical examination, but a negative result may mean anything. FREDERICK LANGMEAD.

Acute infantile encephalitis (*'Post-Grad.,' June*, 1910, *p.* 597).—**Comby** says this disease is frequent in the young and occurs even in intra-uterine life, accounting for some cases of microcephaly, porencephaly, etc. It is sometimes primary, or may be secondary to an infectious disease such as influenza, whooping-cough, gastro-enteritis, mumps, pneumonia, diphtheria, etc. The chief pathological change in the affected part of the brain is polymorphonuclear accumulation round the vessels, in the subarachnoid space, and in the cerebral substance. This is followed by a fibrosis. The foci vary in number and extent and may occur in any part of the encephalon.

The onset is vigorous, with convulsions or coma, rarely head-retraction or Kernig's sign. Following this is a hemiplegia with sometimes aphasia. The paralysed limbs have increased reflexes. Lumbar puncture is negative and so excludes meningitis. The paralysis may or may not pass off; the affected parts may become spastic. Convulsions may recur at intervals. Some children remain more or less imbecile. The termination may be: (1) A mild form in which the brain has only been grazed by the toxic infectious processes, leaving sometimes convulsions or spasm and paralytic accidents. (2) A grave form with more severe lesions, leaving paralysis, contractures, and grave psychic mischief. (3) A very severe form, causing death in the acute phase or leaving incurable infirmities, complete or partial idiocy, etc. It has to be diagnosed from toxic convulsions, tumours, hæmorrhages, softenings and meningitis. The examination of the lumbar fluid may exclude the latter. The author recommends ice to the head, laxative lavage, vesications to the back of the neck, leeches to the mastoids; to relieve the fever hot baths every four hours or cold packs; light diet. After the acute symptoms have passed away iodide of potassium is indicated, with massage and active and passive movements. J. Porter Parkinson.

Acute bulbar paralysis (polio-encephalitis inferior) (*'Clin. Journ.,'* 1910, *vol.* xxxvi, *p.* 385).—**Leonard G. Guthrie.**—The patient, a girl, aged 13 years, was taken ill in January, 1910, with headache, vomiting, fainting, and unconsciousness. On recovering consciousness she was unable to speak or to swallow, and was paralysed from head to foot. Seen within the first week, in addition to the bulbar symptoms she showed slight left ptosis, weakness of the lower half of the left side of the face, slight trismus, weakness of the adductors of the vocal cords, motor aphasia, incontinence of urine, and flaccid paralysis of all four limbs. During this critical period she was treated by injections of strychnine and atropine and was nasally fed. Improvement rapidly set in, and eight months after the onset the patient's condition was as follows: In the legs the muscular power was good, but both knee-jerks were still absent. The right leg showed some spasticity and the plantar response on this side was extensor. The left arm was normal, but the right was spastic with increased deep reflexes and weakness in the distal part of the limb. There was still some weakness of the lower part of the left side of the face on voluntary movement only. The tongue could be well protruded and showed no wasting; there was no dribbling, and swallowing was well performed. The palatal reflex was still absent and the voice remained weak and nasal. The vocal cords approximated well. Speech was fluent, but the articulation imperfect owing to the inaction of the soft palate. The speech was, however, improving, and would probably completely recover in time. Of the nature of the illness there was little doubt, but the localisation of the lesions was a matter of difficulty. Evidently at first widespread damage (poli-encephalo-myelitis) was present, but from the character of the remaining symptoms the severest destructive changes were considered to be in the upper part of the pons, just above the nucleus of the left facial nerve, thus causing left facial weakness of the supra-nuclear type and contra-lateral spasticity. The persistent loss of knee-jerks without atrophic changes in the muscles of the lower limbs was regarded as possibly due to a lesion in the ascending tracts of the spinal cord. Reginald Miller.

Acro-asphyxia in children (*'Arch. f. Kinderheilk.,' vol.* liii, *Nos.* 4–6. *Abst. 'Journ. A.M.A.'*).—**Kartje** has met with four cases of vaso-motor

neurosis in children between the ages of six and twelve. The hands and feet become cyanotic, especially in cold weather, when the child stands, and after long walks. The cyanotic parts sweat to an unusual extent and are hyperæsthetic, while electrical tests produce exaggerated responses on the part of the nerves. Rest in bed and stimulation of the circulatory and nervous systems are indicated. Good results were obtained with the constant current from three to five minutes at a time, the positive electrode being applied to the brachial plexus and the negative to the back of the neck.

T. R. Whipham.

Raynaud's disease in an infant (*'Jahrb. f. Kinderheilk.,' July*, 1910. *Abst. 'Journ. A.M.A.'*).—**Beck** reports the case of a child who, when nearly 5 months old, began to suffer from recurring congestion and bluish discoloration of the hands, feet, and ears. In the course of six weeks the cyanosis recurred every day, gradually becoming almost continuous, and gangrene developed in the left hand. At the autopsy the only pathological findings were patches of thickening in the intima of all the arteries of the extremities and in some of the veins of the arms. The brain and spinal cord appeared normal.

T. R. Whipham.

Tetany of the sphincters, involuntary muscles and the heart in infants (*'Berlin. klin. Woch.,'* 1910, *p.* 1435).—**Ibrahim** has observed two cases of tetany in infants, which commenced with spasm of the sphincter vesicæ and severe retention of urine. It was probable that a similar spasm of the sphincter ani existed. Observation of the effect on the pupils favours the conclusion that involuntary muscles are affected with infantile tetany. He cites the statement of Koeppe respecting eclamptic spasm of the involuntary muscles of the rectum. Finkelstein has referred to tetany of the heart in a case of tachycardia. The author points out that sudden death frequently occurs in tetany. In spasm of the glottis children die, not of asphyxia, but of sudden heart stasis. Only in one of these cases was there a status lymphaticus or an enlarged thymus which could account for the sudden death. He thinks that sudden heart stasis is a primary symptom of tetany, as is also spasm of the glottis and other eclamptic symptoms, and considers it a heart tetany. He is not decided whether a stimulation of the vagus or sympathetic or other causes are concerned.

J. E. Bullock.

Clonic movements confined to the latissimus dorsi (*Monatschr. f. Kinderheilk.,' Bd.* viii, *p.* 503).—**Muggia** reports this case in a girl, aged 13 years. No other muscles were affected. The mother suffered from hysteria, and a sister from chorea. The diagnosis was tic.

Ernest Jones.

Surgery.

The surgical aspect of tuberculous cervical lymph-nodes in children (*'Cleveland Med. Journ.,'* 1910, *p.* 757).—**House** recommends radical excision. When removal of existing sources of irritation, such as enlarged tonsils, eczema about the head, carious teeth or ear discharge, does not bring about a reduction in size, all evidence of disease must be removed, and the extent of the disease is often more than appears outwardly. The resulting scar is less evident after a transverse incision, but a longitudinal incision along the posterior border of the sterno-mastoid muscle is often necessary for the removal of cervical glands; the incision may be connected with a short trans-

verse incision in the upper or lower triangle of the neck as required. For the removal of submaxillary glands a transverse incision about a finger's breadth below the angle of the jaw is best, in order not to injure the supramaxillary branch of the facial nerve. The incision should be carried through the platysma and the deep fascia and the parts retracted upwards, carrying the nerve which lies between these structures out of harm's way. In an extensive longitudinal incision care must be taken not to injure the spinal accessory nerve or the internal jugular vein by a careful separation of the glands. To ensure drainage of the wound he allows a few strands of silkworm gut to protrude from the lower angle of the wound or through a posterior counter-opening. J. E. Bullock.

Walking in congenital dislocation of the hip (*'Rev. d'hyg. et de Méd. Inf.,'* 1910, *No.* 4, *p.* 297).—**C. Ducroquet** first describes the appearance of a normal hip-joint and its action and then gives a study of normal walking. He compares with this the alterations noticed in congenital dislocation of the hip. He draws special attention to the following points: (1) In diagnosis (*a*) whilst taking an X-ray the limbs should be placed in the position of internal rotation so as to bring the neck of the femur well into view; (*b*) the level of the head of the femur at different ages; (*c*) the direction and point of termination of the anterior pubic and posterior ischiac borders of the acetabulum. (2) In causation of the difficulty of walking—the alteration of the length and direction of muscles, especially the gluteus medius; the alteration of the Y-shaped ligament. He classifies the forms of dislocation into unilateral and bilateral, anterior, intermediate, and posterior, symmetrical and asymmetrical. The article is well illustrated with numerous radiographs and explanatory diagrams. Rupert Farrant.

The treatment of congenital dislocation of the hip (*'Le Monde Méd.,* 1910, *p.* 97).—**F. Calot** urges the importance of early diagnosis in the treatment of this malady. After manual reduction he advises the application of plaster-of-Paris for two to three months, fixing the limb in a position of flexion 70°, abduction 80°, rotation 0°; then in a position of flexion 15°, abduction 35°, internal rotation 60° for another two to three months. This treatment is followed by a course of walking exercises. He mentions a series of 300 cases without a recurrence, and states that in one year to eighteen months after reduction no trace of the deformity remains, the cure is perfect, and lameness has disappeared. He gives numerous diagrams to illustrate his method of reduction. Rupert Farrant.

The operative treatment of congenital club-foot (*'Journ. of Amer. Med. Assoc.,' October* 1, 1910, *p.* 1193).—**Ogilvy** is of opinion that corrective manipulation should begin at birth, and that operation, if necessary, should be undertaken early, at the seventh or eighth month. Operative procedures depend upon the degree of deformity, and comprise: (1) Forcible manipulation under an anæsthetic; (2) subcutaneous division of contracted structures; (3) Phelps's open operation; (4) other bone operations, especially excision of a portion of the cuboid in certain cases or osteotomy of the tibia for marked inward rotation. Long-continued and careful attention after all operations is essential. T. R. Whipham.

Practical points in management of poliomyelitis and its sequelæ (*'Med. Record,'* 1910, II, *p.* 657).—**Henry Ling Taylor** remarks on the

occasional occurrence of poliomyelitis in adults, and notes the abdominal paralysis sometimes present. He states that, after six weeks, massage and electricity are useless to aid recovery; otherwise he tells us nothing new. Exceedingly few English orthopædic surgeons will agree with him on this point.

RUPERT FARRANT.

A case of spastic paraplegia treated by resection of posterior nerve-roots (*'Med. Record,'* 1910, I, *p.* 859).—**Moorehead** showed the case of a boy, aged 7 years, before the New York Academy of Medicine. The patient had never walked, and had a typical pronounced spastic paraplegia. A bilateral laminectomy was done, and three roots were divided on each side. Since then the spasticity had been markedly lessened, the reflexes absent, and the general nutrition of the lower extremities much improved. He was now in a position to undergo further orthopædic treatment.

ERNEST JONES.

Surgical and orthopædic treatment of Little's disease (*'Thèse de Bordeaux,'* 1910).—**P. Feutelais** touches on the pathology, ætiology and symptomatology, taking special notice of the varied nature and degree of the cases. Each case must be judged entirely on its merits, stress being laid on the fact that the mental state must be carefully examined before any treatment is commenced. As regards treatment he comes to the following conclusions: Surgical interference should be early rather than late, five to ten years being the most suitable time. Tendon transplantation is to be preferred when practicable to simple tenotomy as relief is obtained to the muscular spasm without contractions of their antagonists. Nerve-grafting should be limited to the upper limbs and only done when movement is almost impossible; division of the posterior nerve-roots and craniectomy are not to be recommended except in the severest cases. Whatever treatment is carried out must be followed by immobilisation and a long course of calisthenics and muscular education. In idiots the results are nearly always *nil.*

RUPERT FARRANT.

Ophthalmology.

Congenital ptosis (*'Monatschr. f. Kinderheilk.,' Bd.* VIII, *p.* 720).—**Ibraham** reports a case of this kind in a girl, aged 11 years. The ptosis was only on the left side; the lid did not rise when the mouth was opened. When she pronounced the vowel *a* with an open mouth there was curious upward movement of the tongue towards the left palate. No other abnormalities were present.

ERNEST JONES.

Amaurotic family idiocy (*'Med. Record,'* 1910, I, *p.* 81).—**Goldstein** presented three cases at the New York Academy of Medicine. The children were Jewish girls, aged 1 year; there was no positive family history in any case. The cases were quite typical.

ERNEST JONES.

Note on a case of ocular albinism in a dark-haired individual (*'Ophthalmoscope,'* 1910, *p.* 884).—**Ernest Thomson** records a case of this rare condition. A girl, aged 11 years, came under observation because of very defective vision since infancy. The child had dark hair, eyebrows and eyelashes, and a darkish, muddy complexion. It was noticeable at a glance that the pupils did not look black, and investigation showed that the eyes were

perfectly albinotic. In the dark room light from the ophthalmoscope was reflected through the irides; no pigment could be seen in the fundi. There was myopia of approximately 5 D., and nystagmus was present. The family history was negative. J. Allan.

A case of teratoma of the orbit (*'The Ophthalmoscope,'* 1910, *p.* 864).—**R. H. Elliot** and **A. C. Ingram** record a case in a Hindu female child aged 6 months. At birth a tumour about the size of a small lime was said to be in the place of the left eye, which was not visible. The tumour had grown steadily, and when seen by the authors was about the size of an orange, and relatively to the child's head the growth was enormous. The measurements were 75 mm. from above downwards, 62 mm. from its front surface to the face, and 65 mm. from side to side. The mouth, nose and cheek were pushed to the right side. The skin covering the tumour was stretched, but not involved. The child's general health was good. Examined by transillumination the tumour was found to be translucent in every direction except on the presumed site of the eyeball, where there was a small opaque area. There was fluctuation. The tumour was excised. The pathological report is given. From the examination it is concluded that the tumour is a true filial teratoma. J. Allan.

Primary diphtheria of conjunctiva (*'Arch. f. Kinderheilk.,'* 1910, *Bd.* LIV, *p.* 183).—**Montagnon.**—The lesion at first resembled a stye, but formation of membrane on the upper lid soon followed. The face and neck became œdematous and the neighbouring lymph-glands swollen. The temperature was not raised. Bacteriological examination showed diphtheria bacilli. Thirty-six hours after the injection of antitoxin the membrane was deliquescing and the œdema had subsided. Three days later the lesion had entirely disappeared. J. D. Rolleston.

On sloughing corneæ in infants: an account based upon the records of thirty-one cases (*'The Ophthalmoscope,'* 1910, *p.* 782).—**Sydney Stephenson,** in the course of a long paper, fully discusses this disease. The condition is by no means infrequently met with in certain parts of the world, and is not unknown in this country. The author estimates that keratomalacia is encountered in 1 per 1000 of the eye cases attending a children's hospital in the poorer part of London. It affects children whose ages usually range from three to twenty months, and is especially frequent at about the eighth month of life. It chiefly occurs in children of the poorer classes, and according to Knaebel it is disproportionately frequent in twin children, and illegitimate are more apt to be affected than legitimate offspring. There is a definite seasonal incidence. The disease is much more frequent during the warm months of the year. In London its seasonal incidence closely follows that of zymotic enteritis. Without exception the victims of kerato-malacia are marasmic; the vitality of the infants affected has been seriously reduced by "epidemic" or "zymotic enteritis," congenital syphilis, athrepsia, or tuberculosis, named in their order of frequency. About 50 per cent. of those affected succumb, the immediate cause of death being usually broncho-pneumonia or exhaustion. Blindness results in about one half of the children who survive. The condition is generally bilateral, both corneæ being affected. The first sign to be noted is a slight dulness of the epithelium in the lower part of the cornea, but the disease quickly spreads, and in bad cases the entire cornea becomes converted into a

soft, greyish-white, pulpy slough, resembling damp wash-leather. At first there is very little inflammatory reaction, but later well-marked panophthalmitis, as a rule, supervenes. Xerosis of the conjunctiva is associated with this affection in about 50 per cent. of the cases. If the baby's nutrition cannot be improved the cornea is likely to perforate. There are two conditions which may cause some confusion in diagnosis: (1) Keratitis xerotica (Feuer), and (2) tropho-neurotic keratitis. Keratomalacia is associated with no specific micro-organism, although in scrapings from the cornea the pneumococcus may be found in about one half of the cases. Treatment must be both general and local. The general treatment is that, broadly speaking, suitable for marasmus. The proper feeding of the infant is of great importance. In the author's opinion the giving of alcohol in the form of brandy is most useful. Cod-liver oil has a distinct value, especially if given by inunction. Neat's-foot oil is more economical, and is apparently quite as valuable as cod-liver oil. If syphilis be present mercury must be given. Mercury with chalk, $\frac{1}{2}$ to 1 gr. three times daily, should be given, and each dose may be usefully combined with $\frac{1}{2}$ gr. of bicarbonate of sodium and 1 gr. of aromatic powder of chalk. Mercurial inunction should also be practised. The local treatment of the eyes will include the frequent use of douches of hot saline or boric lotion. Antiseptic drops frequently instilled were most serviceable; of these, argyrol, 15 to 25 per cent., quinine (4 gr. of quinine sulphate to the ounce of distilled water, just enough sulphuric acid being added to ensure a clear solution), and hydrogen peroxide are the best. Physostigmine ($\frac{1}{2}$ per cent.) in vaseline or oily solution should be applied. In certain cases surgical measures may be required. In an appendix notes on the thirty-one cases are given, and at the end references to the literature on this subject. J. Allan.

Treatment.

The use of Marpmann's serum in scarlatina (*'Giorn. Internat. delle Sci. Med.,' September*, 1910, *No.* 18, *p.* 817).—**A. Montefusco,** professor of infectious diseases at the University of Naples, contributes a paper in which, after reviewing the results of the treatment of scarlatina by anti-streptococcic serum, he points out that Marpmann's serum is prepared on entirely different principles. Marpmann endeavoured to obtain the toxin of scarlatina from the blood and other organs of persons suffering from this disease, and to reproduce the infection with the extracts thus obtained and inoculated into guinea-pigs and rabbits. He noticed that after the inoculation of a small quantity of blood taken from a patient, after a variable time—from one hour and a half to twenty-one days—the animals were seized with a general infection which resulted in death, while the few that survived presented violent febrile symptoms. The same results were obtained with an emulsion of cutaneous scales. The result was only positive, however, with scales taken at the time of full desquamation; those taken during efflorescence gave no result. The urine also gave similar results. From these sources Marpmann extracted a toxin with which he immunised animals and obtained a curative serum which he claims to contain a specific antitoxin, innocuous, and which does not cause either intoxication, cutaneous eruptions or nervous disturbance, and which retains its activity for at least two years. It is a faint yellow, opalescent liquid, with a saline taste, has a neutral reaction, and contains albuminoid and alkaloidal substances. It is given by the mouth in doses of three to five drops every two hours to children up to ten years of age, and

in proportionate doses to older children. Prof. Montefusco administered it in thirty-six cases of scarlatina, with three deaths, *i. e.* 8·3 per cent. One of the fatal cases, however, should be excluded, as it died twenty-four hours after admission. The mortality is thus reduced to 5·7 per cent. If a case which died of acute nephritis several days after the scarlatina had recovered, the mortality would be reduced still further to 2·9 per cent. On the other hand, the mortality of cases which were treated without serum was 15·8 per cent. This would seem to indicate the beneficial action of Marpmann's serum, but a closer examination shows that this conclusion is not justified by the facts. Classifying the thirty-six cases according to their gravity at least twenty-eight of them were mild cases, which would have recovered without any active treatment. The two fatal cases, excluding that one which was moribund on admission to the hospital, would equally have had a fatal issue under any treatment. This leaves five cases, which were undoubtedly severe, and which recovered under Marpmann's treatment, but whose cure could not conscientiously be attributed entirely to the serum, since every physician sees seemingly desperate cases of infectious disease recover. The criterion by which the efficacy of a serum must be gauged is that deduced from the modifications which the serum produces on the clinical manifestations of the disease, or its course and complications. Now, the author's cases show that although Marpmann's serum is innocuous, it neither modifies the temperature, the exanthem, the sore throat, nor glandular enlargement, nor does it shorten the duration of the disease, improve the general condition, nor procure freedom from complications at any stage. There is therefore no evidence that such a serum has any specific action on scarlatina or exercises any favourable influence on its course or result. An anti-scarlatinal serum has therefore still to be sought for. VINCENT DICKINSON.

Report of five cases of tetanus, and remarks on the treatment of the disease (*'Med. Record,' August* 13, 1910, *p.* 262).—**Charles D. Fox.**—Of these cases two occurred in children. Case 2 was a girl, aged 9 years, who ran a splinter from a fence rail deeply into her calf-muscles. Twelve days later trismus appeared. Three days later, when she first came under treatment, her condition appeared hopeless as she had marked and constant opisthotonos, and, at intervals of a few minutes, severe general tonic convulsions, with symptoms of asphyxia. The wound was freely opened, cleansed, and deeply cauterised. In the first twenty-four hours the patient was given 1 gr. of morphine sulphate hypodermically 45 gr. of chloral, 120 gr. of bromides, 40 minims of tincture of cannabis indica, 60 c.c. of anti-tetanic serum, and chloroform and oxygen in unknown quantities. The serum was injected into the sciatic, anterior crural, and obturator nerves. The patient died from asphyxia caused by a convulsion at the end of the first twenty-four hours of treatment. It is remarkable what large doses were tolerated in a girl of 9 years, and no ill-effects could be attributed to the administration of the drugs. Case 4 was a boy, aged 12 years, who ran a nail a short distance into his great toe. Four or six days later trismus appeared, and then opisthotonos developed so that the patient was unable to lie on his back; yet there was little tendency to tonic convulsions. At first he was given subcutaneous injections of increasing doses of a saturated solution of magnesium sulphate in addition to subcutaneous injections of anti-tetanic serum. Magnesium sulphate was administered by the intra-spinal route on two occasions on consecutive days and then this treatment was abandoned. After giving 27,000 units of anti-tetanic serum

during the first two days without any improvement this treatment was discontinued. He was given 10 gr. of chloral and 60 gr. of sodium bromide every four hours. Improvement began slowly after five days and the hypnotics were gradually withdrawn, so that at the end of four days all medical treatment was discontinued. Subsequently the symptoms gradually improved, and he was discharged perfectly well thirty-three days after admission. During the height of the rigidity the patient exhibited scarcely any stupor in spite of the large doses of chloral and bromides that were administered, but during the withdrawal of these drugs increasing stupor became apparent, which gradually disappeared during the course of twelve or fourteen days. The author lays stress on the prophylactic treatment of wounds, as he considers it of far greater importance than the treatment of the disease after it has developed. Treatment of tetanus by means of anti-tetanic serum is discussed, and statistics are given showing that the mortality is only slightly reduced by its administration. Probably the most common mode of administration is by means of a combination of subcutaneous and intra-spinal injections. Baccelli's treatment by means of subcutaneous injections every two or four hours of a 2 per cent. solution of carbolic acid seems to be unsatisfactory except in Italy. Subarachnoid injections of 1 to 2 c.c. of a 25 per cent. solution of magnesium sulphate have had beneficial results. When employing this treatment it is necessary to make use of morphine, bromides, and chloral, and it is advisable to administer serum. Treatment on these lines seems to offer the greatest chance of cure.

James E. H. Sawyer (Birmingham).

Tetanus successfuly treated with magnesium sulphate (*'Med. Record,'* 1910, II, *p.* 720).—**C. D. Fox.**—A boy, aged 12 years, eleven days after running a splinter into his right hallux developed symptoms of tetanus. In spite of injections of anti-tetanic serum and hypnotics he continued to get worse. On the fourth day of disease 2 c.c. of a 25 per cent. solution of magnesium sulphate were injected into the spinal canal. No immediate effects were observed, but four hours later both upper and lower limbs became almost completely relaxed. About the seventh day gradual improvement set in and the serum was discontinued, and finally complete recovery took place. Of the 60,000 units of anti-tetanic serum 24,000 had been given intra-venously, 12,000 intra-spinally, and the remainder subcutaneously.

J. D. Rolleston.

Treatment of congenital syphilis with "606" (*'Medical Record,' No.* 25, 1910, *p.* 1085).—**Kakels** reports several cases of congenital syphilis treated by the direct and indirect methods. Among the former were two cases of interstitial keratitis, in children aged 9 and 12 years respectively, which had failed to improve under mercurial treatment. Rapid improvement was noticed in each case after injection of 0·15 grm. of "606." In a third case improvement in hearing and mental intelligence and cessation of nasal discharge was noted after injections of 0·3 grm. of "606" in a child, aged 9 years, who was suffering from deafness, mental weakness, and a foul discharge from the nose. A fourth case was treated by the indirect method, through the mother's milk. The infant, aged 4 weeks, had typical signs of congenital syphilis, with spirochætes in the skin lesions, but neither parent showed signs of syphilis. However, all three gave a positive Wassermann reaction. The mother was injected with 0·3 grm. of "606," but the infant died ten days afterwards. Contrary to

what has been stated in other cases treated in the same way, arsenic was found in the mother's milk. The author remarks that "as the mother had no manifest lesions the unsuccessful result might be explained by the fact that sufficient anti-bodies were not formed when "606" was incorporated into her system, which could be transmitted to the child through her milk." **Politzer** (*'New York Med. Journ.,' No.* 5, 1911, *p.* 209) also reports two cases of interstitial keratitis which cleared up after injection of "606." In one case, aged 13 years, two injections of 0·1 and 0·25 grm. were given; in the second case, aged 12 years, 0·3 grm. C. F. MARSHALL.

The treatment of congenital syphilis in sucklings through injection of the suckling mother with Ehrlich-Hata "606" (*'Berlin. klin. Woch.,' No.* 1, 1911, *p.* 13).—**Peiser** reports two cases of congenital syphilis which died after injection of the suckling mother with "606." The first case, an infant, aged 8 days, was severe and of bad prognosis. Both mother and child gave a positive Wassermann reaction. The mother was injected with 0·5 grm. of "606." The child rapidly became worse and died of pyæmia two weeks after the injection. Post-mortem examination revealed no spirochætes. The second case, a child, aged 7 weeks, was of a milder type and of good prognosis; yet this child died of broncho-pneumonia nine days after injection of the mother with 0·4 grm. of "606." In this case abundant spirochætes were found in the suprarenals. Peiser remarks that both infants died of secondary infection, an event which should not occur with proper anti-syphilitic treatment, especially when the infant is suckled by the mother. He also mentions another fatal case of congenital syphilis treated in this way reported by Rosenthal, and three cases in which the treatment failed to prevent relapses in the child reported by Escherich. Peiser concludes that the treatment of congenital syphilis by injecting the suckling mother with "606" is not to be depended upon.

C. F. MARSHALL.

"606": Indications and contra-indications, methods of employing, and doses (*'Revue Générale de Clinique et de Thérapeutique,' No.* 53, 1910, *p.* 823).—**Jeanselme.**—In the course of his instructive contribution to the subject of "606," the author refers incidentally to two cases of infants at the breast treated indirectly through the mother. There are instances on record in which this has answered admirably, but in Jeanselme's two cases the results were distinctly disappointing. In the first one the infant developed a macular syphilide soon after its mother had been injected with "606." The eruption was followed by Parrot's paralysis, which immobilised one of the upper limbs. The infant became rapidly emaciated and cachectic. There is no doubt the child would have died had not Jeanselme had recourse to mercurial treatment. As to the second case, the infant presented a few mucous patches and a discrete exanthem at the time its mother was injected with "606." Instead of receding, the syphilitic symptoms became worse. In this instance again Jeanselme had to fall back on mercury, which rapidly led to improvement. This shows, once again, that "606" may have surprises in store. I do not desire to undervalue "606," on the contrary, but these two cases, recorded by such a careful observer as Jeanselme, are worth bearing in mind.

GEORGE PERNET.

Reviews of Books.

OXYPATHIE. By Prof. WILHELM STOELTZNER, Director of the University Poliklinik for Diseases of Children in Halle a. S. Pp. 92, with 16 charts. Berlin: S. Karger, 1911. Price M. 3·60.

THIS very suggestive monograph details the symptoms and discusses the pathology of a morbid state which has long been recognised by the profession as a clinical entity, and to which a number of names have been given. In France, for example, it has been termed "arthritisme," and in England and America "lithæmia." The "exsudative diathesis," which Prof. Czerny, of Strassburg, has recently written about, is said also to be practically the same thing. Prof. Stoeltzner regards the condition as one in which the power of the body to eliminate inorganic acids—especially phosphoric acid—sufficiently has been lessened by alimentary or constitutional causes, and he proposes "oxypathie" as a more convenient and suitable name than any of those already in use.

Oxypathie may be present at all stages of life, and the author traces its working, under a variety of conditions, in childhood. He describes, for example, a form of infantile atrophy caused by feeding with cow's milk. This he attributes to the excess of phosphate of lime in the milk being decomposed, in the presence of cream, the lime combining with the fatty acids, and a sort of phosphoric acid poisoning resulting. When buttermilk is given such a decomposition does not take place, because little or no cream is present. If, again, an alkali is added to a milk mixture which contains an excess of phosphate of lime, even with cream, no "oxypathie" occurs, owing to the alkali combining with the phosphoric acid which is set free. It is interesting to find that, although Prof. Stoeltzner has, like Wright and Poynton, obtained excellent results from the use of sodium citrate in infant feeding, his explanation of this success is quite different from theirs. He puts it down entirely to the neutralisation of the phosphoric acid derived from the cow's milk.

Another very important effect of "oxypathie" in young children is a predisposition to eczema. The author holds that eczema has both a general predisposing and a local exciting cause, and he believes that, while the latter may need some further local treatment, the former is often removed by giving the patient a sufficient amount of citrate of soda.

In older children this chronic phosphoric acid poisoning is regarded as also responsible for a variety of other maladies. Such well-defined morbid states as lichen urticatus, bronchial asthma, periodic vomiting and migraine may be caused by it, and it may also produce such less definite symptoms as pallor, capricious appetite, irritability, and sleeplessness.

The remedy which Prof. Stoeltzner chiefly recommends in the treatment of "oxypathie" is citrate of soda in doses of 60 grs. and more in the twenty-four hours. For older children a large amount of fresh vegetables and fruit in the diet is most beneficial, and in all cases open-air exercise is very important.

Prof. Stoeltzner's work is evidently the result of much thought and wide reading, as well as of a varied clinical experience, and it is full of suggestive ideas. It proposes explanations of a number of familiar clinical facts which have hitherto been quite obscure. Whether these explanations will stand the test of further experimental investigation by the physiological chemist

remains to be seen. In the meantime, however, even if they are not always convincing, they certainly arouse stimulating thoughts and form very interesting reading for the physician. JOHN THOMSON.

TRAITÉ DES MALADIES DU NOURRISSON. By Dr. A. LESAGE. Paris: Masson et Cie. Price 10 francs.

THE author begins by mentioning the obstacles to maternal nursing, and the methods of treating them. Over 150 pages are devoted to the normal life of the infant and especially to the digestive functions; we are surprised that in speaking of the supra-renal glands he considers their *rôle* extremely small considering their comparatively large size in the fœtus and infant. In discussing whether milk should or should not be sterilised he says that, though most of the French children are fed on sterilised milk, scurvy in infants is exceedingly uncommon in France.

In discussing the feeding of infants with cow's milk, he states, we think incorrectly, that many English medical men employ the American method of prescribing an artificial mixture of fat, sugar, casein, and water; we do not think that this method is much used at present. He sums up the difference between infants fed upon the breast and the bottle by saying that though the latter may appear in every way as healthy as the former, they are much more affected by infantile ailments such as whooping-cough or measles, and there is no better criterion of health than resistance to disease. Hereditary syphilis is considered in a somewhat brief way, especially as regards treatment, and the same remark applies to the treatment of tuberculosis. The digestive troubles and diarrhœas of infants are well described. Broncho-pneumonia receives a very inadequate notice, only seven lines being given to its treatment; as the death-rate of this common disease in infants under one year is nearly 50 per cent. we look upon it as one of the most important diseases of infancy.

Congenital heart disease is much more adequately discussed. Post-basic meningitis is not distinguished from cerebro-spinal. The author considers that all cases of scarlet fever should be treated with anti-diphtheritic serum as the bacillus of Loeffler is frequently found in the throat. Measles and the other acute specifics which attack the infant are succinctly described.

We consider this book will well repay perusal, and will be very popular with the general practitioner and with those who have to deal with the care and the diseases of the young infant. J. PORTER PARKINSON.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY: TWENTY-FIRST SESSION. Edited by LINNÆUS EDFORD LA FÉTRA, M.D. Vol. xxi. Reprinted from 'Archives of Pediatrics,' 1909–1910. New York: E. B. Treat & Co.

THIS volume contains a large number of valuable papers, most of which have been abstracted in this JOURNAL. As of special interest we may mention the following: "Spasmodic Stricture of the Œsophagus," by L. E. La Fétra; "The Urine in the Gastro-intestinal Diseases of Infancy," by J. Lovett Mase and B. Crothers; "The So-called Thymus Death, with an Account of Seven Cases of Sudden Death in One Family," by J. P. Crozer Griffith; "Pneumococcic Infection," by Walter Lester Carr; "Congenital Stenosis of the Duodenum," by R. G. Freeman; and "The Bacteriology of Acute Infections of the Respiratory Tract in Children, with Especial Reference to Influenza," by L. Emmett Holt.